CONTENTS OF SUPPLEMENT.

PERSONAL 41
Obituary 41
ENGINEERING SOCIETIES 41
Coming Technical Meetings 41
NEW PUBLICATIONS 42
Trade Publications 42
CONSTRUCTION NEWS: 43
Condensed List of Contracts Pending 43
Railways 44
Street and Electric Railways 44
Electric Light and Power 45
Bridges 45
Buildings 46
Water-Works 46
Sewerage 47
Garbage Disposal and Street Cleaning 47
Streets and Roads 47
Manufacturing Plants 47
Gas Plants 47
Miscellaneous Contracts 47
Contract Prices 48
INDUSTRIAL NOTES 48

PERSONAL.

Mr. E. S. Nashburn has been elected President of the Kansas City Union Ry. Co., with offices at Kansas City, Mo.

Mr. William S. Clark has been elected City Engineer of Meriden, Conn., in the place of Mr. Ernest B. Moss, resigned.

Mr. E. D. Kenna, General Solicitor of the Atchison, Topeka & Santa Fe R. R., has been elected First Vice-President of the company.

Mr. Charles H. Rust has been appointed City Engineer of Toronto, Ont., to take the place of Mr. Edward H. Keating, M. Am. Soc. C. E., resigned.

Mr. James M'Crea, Vice-President of the Pennsylvania Co., has been elected a Trustee of the University of Pennsylvania, to fill the vacancy caused by the death of Hon. John Scott.

Dr. Benjamin Lee, Secretary of the State Board of Health and State Quarantine Board of Pennsylvania, has been appointed Health Officer of Philadelphia by Gov. Hastings, to fill the vacancy left by the resignation of Mr. Theodore Stulb.

Mr. T. S. Miller, of St. Paul, Minn., has been appointed General Manager of the Seattle & International Ry., recently acquired by the Northern Pacific Ry., and formerly known as the Seattle, Lake Shore & Eastern R. R. Mr. Miller's headquarters will be at Seattle, Wash.

Mr. W. B. Causey has been appointed Roadmaster of the Wisconsin Division of the Chicago & Northwestern Ry., between Lake Shore Junction and Chicago, in place of Mr. D. Tumy, assigned to other duties. Mr. Causey was formerly Engineer Maintenance of Way of the Atlantic & Danville Ry.

Mr. L. R. Pomeroy, Asso. M. Am. Soc. M. E., Sales Agent of the Forge Department of the Cambria Iron Works, recently delivered a lecture before the Senior Students in Mechanical Engineering of Purdue University, on the "Coffin process" of treating steel for producing axles, crank pins and similar forgings.

Mr. John Kennedy, Chief Engineer of the Harbor Board of Montreal, has been granted a temporary leave of absence to investigate and report upon the best practicable method of generating and distributing electric power from the rapids in the Niagara River, at the request of the Queen Victoria Niagara Falls Park Commission.

Mr. Peter Milne has been removed from his position as Chief Engineer of the Department of Water Supply of Brooklyn, N. Y., by the new Commissioner of Water Supply of Greater New York and the position has been abolished. The same order abolished the positions of Water Purveyor and Secretary, and removed the officers occupying them.

Mr. Fred. S. Pearson, M. Am. Inst. Elec. E., Chief Engineer of the Metropolitan Street Ry. Co., of New York, was given a complimentary dinner by the employees of that company on Feb. 2, at the eve of his departure for a year's travel and study in Europe. Mr. Pearson has had much to do with developing the underground trolley system in New York city.

Mr. C. C. Martin, Engineer of Bridges of the Borough of Brooklyn, and Mr. L. L. Buck, Engineer of the new East River Bridge, and both Members of the American Society of Civil Engineers, have been appointed by Secretary of the Navy Long to investigate the foundation conditions, and other features connected with dry-dock No 3, at the Brooklyn Navy Yard They will make a sealed report to the Secretary of the Navy.

OBITUARY.

Mr. Robert H. Downey, of Houston, Tex., senior member of the firm of Downey & Downey, General Contractors of that city, died suddenly of apoplexy on Jan. 18.

Prof. F. Hawn, of Leavenworth, Kan., died on Feb. 1 at the age of 90 years. Prof. Hawn was one of the incorporators of the city in which he lived, and during his life helped to survey much of the state of Kansas.

Mr. Herbert W. Large, of Chicago, Ill., a civil engineer in the employ of the Chicago & Northwestern Ry., while at work on the new bridge at Winona, Minn., on June 18, fell to the ice, 30 ft. below, and was killed. Mr. Large was 45 years old and a wife and four children survive him.

Mr. Sigismund Low, of Pittsburg, Pa., died Feb. 3. Mr. Low was Chief Engineer of the old Pittsburg & Connelsville Ry. under Mr. Benj. F. Latrobe, President, and had been engaged in many other engineering works. He was born in Germany 73 years ago, and in 1849 he became one of Franz Sigil's and Carl Schurz's lieutenants in the unsuccessful effort to promote an insurrection at Bonn. For this he was sentenced to be shot, but managed to escape from prison and come to this country.

Mr. Randell Hunt, M. Am. Soc. C. E., of San Francisco, Cal., died Jan. 26. Mr. Hunt graduated from Yale College in 1876 with degrees in engineering and philosophy, and his first professional work was for the New York Department of Parks. In 1878 he went to Dakota where he engaged in general engineering practice. From Dakota he went to San Francisco in 1888, and since that time has been engaged in business as a contractor and engineer in that city. Mr. Hunt became a Member of the American Society of Civil Engineers in 1883.

Mr. James F. Smith, of Pittsburg, Pa., died Jan. 31, at the age of 84 years. Mr. Smith was one of the oldest civil engineers in America, and started in his profession in 1831, when he was appointed assistant civil engineer of the Allegheny Portage R. R. He assisted in the location and construction of the road, which crossed the Allegheny Mountains and conveyed canal boats from Johnstown to Hollidaysburg. In 1836 he secured a position with the Catawissa R. R. and assisted in its location and construction. While in the service of this company he became the inventor and builder of the five large high trestles on this road, the highest being 180 ft. Similar bridges were erected over the Genesee River, on the Erie Railroad, near the Starucca viaduct, five in all, which were copied from the plans. In 1840 the deceased entered the employ of the New York & Erie R. R., and was Cashier of the Eastern Division a period of two years, with headquarters at Piermont. In 1843 he entered the employ of the old Schuylkill Navigation Co. as Engineer of the Lower Division. Later he was appointed Chief Engineer for the company's entire system, with headquarters in Pittsburg. He has resided in Reading since 1850, and retired from business life about ten years ago. During the latter years of his life Mr. Smith was Consulting Engineer of the Philadelphia & Reading R. R. He was also at one time President of the East Penn R. R. He is survived by his widow and six children, besides one brother. He was an active member of the First Presbyterian Church and an elder for many years.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

ST. LOUIS RAILWAY CLUB.
Feb. 11. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.

NEW YORK ELECTRICAL SOCIETY.
Feb. 11. "Electricity Direct from Coal," Joseph Wetzler; "The Status of the Physical Relations of Electro Chemistry," Dr. G. F. Barker; "The Application of Electricity to Chemical Analysis and Laboratory Research," Dr. Edgar F. Smith. Secy., George H. Guy, 120 Liberty St., New York city.

INDIANAPOLIS ENGINEERING CLUB.
Feb. 12. Secy., Edson F. Folsom, Indianapolis, Ind.

MONTANA SOCIETY OF ENGINEERS.
Feb. 12. Secy., Albert S. Hovey, Helena, Mont.

ENGINEERS' CLUB OF KANSAS CITY.
Feb. 14. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.
Feb. 15. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.

WESTERN RAILWAY CLUB.
Feb. 15. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.

AMERICAN INSTITUTE OF MINING ENGINEERS.
Feb. 15. Annual meeting Atlantic City, N. J. Secy., R. W. Raymond, 13 Burling Slip, New York city.

THE PACIFC COAST TRANSMISSION ASSOCIATION.
Feb. 15-18. Secy., Robt. McF. Doble, Blue Lake Water Co., Blue Lake, Humbolt Co., Cal.

BRICK MANUFACTURERS' ASSOCIATION.
Feb. 15. Secy., Xavier Wittmer, Pittsburg, Pa.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Feb. 16. "Mechanical Changes in Mixtures of Cast Iron," Eugene W. Smith; Discussion on Mr. McDowell's paper on "The Value of Metalloids in Cast Iron." Secy., A. Sorge, Jr., 1020 Monadnock Block, Chicago.

BOSTON SOCIETY OF CIVIL ENGINEERS.
Feb. 16. Secy., S. E. Tinkham. City Hall, Boston, Mass.

WESTERN FOUNDRYMEN'S ASSOCIATION.
Feb. 16. Secy., A. Sorge, Jr., 1020 Monadnock Block, Chicago, Ill.

ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
Feb. 16. Secy., Frank H. Olmsted, Los Angeles, Cal.

ENGINEERS' CLUB OF ST. LOUIS.
Feb. 16. Secy., Richard McCulloch, St. Louis, Mo.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
Feb. 16. "Spirit Leveling of the United States Geological Survey," Herbert M. Wilson. Secy., C. W. Hunt, 220 West 57th St., New York city.

CANADIAN SOCIETY OF CIVIL ENGINEERS.
Feb. 17. Secy., C. H. McLeod, 112 Mansfield St., Montreal, Canada.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
Feb. 17. Secy., F. A. Charpiot, Macon, Ga.

ENGINEERS' CLUB OF CINCINNATI.
Feb. 17. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.

NEW YORK RAILROAD CLUB.
Feb. 17. Secy., W. W. Wheatly, 168 Montague St., Brooklyn, N. Y.

CHICAGO ELECTRICAL ASSOCIATION.
Feb. 18. "Electricity in Medicine," E. W. Jewell.
Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.

THE ENGINEERS' CLUB OF PHILADELPHIA.
Feb. 19. "Various Phases of Road Question," Gen. Roy Stone.
Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.

ENGINEERS' CLUB OF COLUMBUS.
Feb. 19. Secy., M. S. Hopkins, 14½ N. High St., Columbus, O.

TECHNICAL CLUB OF OMAHA.
Feb. 21. Secy., J. Harry Lawrie, Omaha, Neb.

ENGINEERS' CLUB OF MINNEAPOLIS.
Feb. 21. Secy., Elbert Nexsen, 1620 S. E. 4th St., Minneapolis, Minn.

CIVIL ENGINEERS' CLUB OF CLEVELAND.
Feb. 22. Secy., Wm. H. Searles, Case Library Bldg., Cleveland, O.

WISCONSIN POLYTECHNIC SOCIETY.
Feb. 22. Secy., W. K. Means, Loan & Trust Bldg., Milwaukee, Wis.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
Feb. 23. Secy., R. W. Pope, 26 Cortlandt St., New York city.

ENGINEERING ASSOCIATION OF THE SOUTH.
Feb. 24. Secy., C. B. Wilson, Nashville, Tenn.

FRANKLIN INSTITUTE.
Feb. 24. "The Telephone Exchange," Herbert L. Webb.
Secy., Wm. H. Wahl, 15 S. Seventh St., Philadelphia, Pa.

BROOKLYN ENGINEERS' CLUB.
Mar. 3. Secy., A. J. Provost, Jr., 191 Montague St., Brooklyn, N. Y.

TECHNICAL SOCIETY OF THE PACIFIC COAST.
Mar. 4. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.

CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Mar. 7. Secy., C. L. Annan, City Engineers' Office, St. Paul, Minn.

ENGINEERS' SOCIETY OF WESTERN NEW YORK.
Mar. 7. Secy., H. J. March, Library Bldg., Buffalo, N. Y.

DENVER SOCIETY OF CIVIL ENGINEERS.
Mar. 8. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Col.

NORTHWEST RAILWAY CLUB.
Mar. 8. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.

NEW ENGLAND RAILROAD CLUB.
Mar. 9. Secy., Edward L. Jones, P. O. Box 1158, Boston, Mass.

CENTRAL RAILWAY CLUB.
Mar. 11. Secy., H. D. Vought, "Courier," Buffalo, N. Y.

NORTHWESTERN TRACK AND BRIDGE ASSOCIATION.
Mar. 11. Secy., D. W. Meeker, St. Paul, Minn.

THE AMERICAN SOCIETY OF IRRIGATION ENGINEERS.
Mar. 25-26. Annual Meeting, Denver, Colo. Secy., John S. Titcomb, 38 Jacobson Block, Denver, Colo.

THE CONNECTICUT ELECTRIC LIGHT ASSOCIATION.—At the annual meeting held in New Haven, Conn., Jan. 31, the following officers were elected for 1898: Pres., James English, New Haven; Secy., A. F. Hanle, New Haven; Treas., A. M. Young, Waterbury.

THE AMERICAN STREET RAILWAY ASSOCIATION.—The executive committee of this association met Jan. 25 at the Hotel Brunswick, Boston, Mass., to decide upon the date of the next annual convention. This was fixed for Sept. 6, 7 and 8 and it will be held in Boston.

BROOKLYN ENGINEERS' CLUB.—At the last meeting of this club, held Feb. 3, Mr. A. S. Tuttle delivered an illustrated lecture on the "Brooklyn Water Supply." A motion to change the date of meeting from the first to the second Thursday of each month was carried over to the next meeting. A. J. Provost, Jr., Secy.

THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—The subject under discussion at the last meeting of the Institute, on Jan. 26, was the standardizing of electrical apparatus, generators, motors and transformers. President Crocker called upon Mr. E. W. Rice, Jr., who introduced the discussion by outlining directions along which such work might be conducted. An interesting discussion followed, in which a number took part. As a result the matter was referred to the council for such action as it may consider advisable.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—The annual banquet of this society was held Jan. 27 at the Hotel Henry, Pittsburg, Pa. Fully 125 engineers and invited members of other professions were present and enjoyed the following toasts: "The Engineer and the Press," A. G. Burgoyne; "The Engineer and the Railroad," Rawdon Evans; "The Engineer and the Law," Willis F. McCook; "The Engineer and the Manufacturer," E. E. Keller; "The Engineer and the Ladies," Victor Breutner; "The Engineer and Science," Prof. James E. Keeler; "The Engineer and Our Society," W. G. Wilkins, and "The Engineer and the Contractor," A. L. Schultz.

RENSSELAER POLYTECHNIC INSTITUTE ALUMNI ASSOCIATION.—The regular midwinter banquet of this association was celebrated Feb. 4, at Delmonico's, New York city, where fully 125 graduates assembled to enjoy the excellent menu and listen to the following toasts: "The Institute," John H. Peck, President of the Institute; an address, Alphonse Fteley, President American Society of Civil Engineers; "The Faculty," Prof. Palmer C. Ricketts; "The Engineer at Large," O. F. Nichols; "Why an Engineer Has Hair on the Top of His Head," Col. H. E. Prout, Editor "Railroad Gazette"; an address, N. P. Lewis; "The Young Engineer," M. E. Evans; an address, Lewis Nixon, President New East River Bridge Commission; address, L. L. Buck, Chief Engineer East River Bridge; address, Dr. W. P. Mason; "Home, Sweet Home," Geo. A. Just.

CHICAGO ELECTRICAL ASSOCIATION.—At the meeting on Feb. 4, a paper on "Electricity in Shipbuilding" was read by Mr. C. C. Mattison, Engineer of the Chicago Shipbuilding Co. He stated that he had tried an electric oven for heating rivets, but while it worked fairly well in the shop it was useless for outdoor work, and was cumbersome and expensive. For drilling, he found portable compressed air riveters more economical than electric riveters with flexible shafts. A considerable part of the paper was devoted to a description of the electrical equipment of the new U. S. battleship "Kentucky."

Mr. Thomas G. Grier, Chairman of the committee appointed to prepare a set of standard conventional signs or diagrams for the common parts of electrical apparatus, for use in drawings for the patent office, etc., submitted a report, accompanied by several sheets of drawings, including some 80 standard diagrams. He explained that the work arose out of the difficulty experienced by the patent office in understanding many of the drawings of electrical apparatus submitted, and stated that the committee is arranging to have the report and diagrams printed and offered for sale.

WESTERN SOCIETY OF CIVIL ENGINEERS.—At the meeting on Feb. 2, the President, Mr. Alfred Noble, read a paper on "The Nicaraguan Canal." Mr. Noble was a member of the government board which examined the route of the canal in 1895, and his paper was illustrated by a number of stereopticon views of scenery, maps, etc.

He stated that under the present plans the route leaves the Pacific coast at Brito and follows the Rio Grande for 10½ miles, a channel 7½ miles long then extends across the western divide to Lake Nicaragua, which is 110 ft. above sea-level. Then came 56½ miles of lake navigation and 69 miles of the San Juan River, the latter being slackwater navigation made possible by the construction of a great dam at Ochoa. Then follow 12 miles of the rectified course of the river, leading to the great cut three miles long through the eastern divide, after which comes a series of locks extending over a distance of 6 miles, followed by a cut 11 miles long to the Atlantic port of Greytown. The maximum depth of the cut through the eastern divide will be about 328 ft. The total length will be about 174 miles, of which 85 miles will be excavated channel and 89 miles will be dredged channel. The depth of the proposed canal to be between 28 and 30 ft.

In the discussion, Mr. Geo. S. Morison said that the raising of the lake level by the Ochoa dam seemed likely to be objectionable by causing the flooding of valuable agricultural lands around the lake.

THE NEW YORK ACADEMY OF SCIENCE.—A regular meeting of this organization was held Feb. 7 at the Mott Memorial Library, New York city. After a brief general business session the Section of Astronomy and Physics was called to order to listen to a paper by Mr. P. H. Dudley, entitled "The Use of the Dudley Stremmatograph in Determining Strains Produced in Rails by Moving Trains," and a paper by Wm. S. Day on "Recent Experiments Concerning the Specific Heat of Water."

Mr. Dudley's paper was a summation of a considerable number of experiments on the strains in rails produced by standing and moving trains obtained on several railways in the East. In these experiments a form of strain recording instrument invented by Mr. Dudley and known as the stremmatograph was used. With this apparatus he was enabled to determine the amount of the strains and deflections in various tracks under different conditions. The conclusions drawn were that not enough attention was being paid to the roadbed and that the strains produced by heavy and rapidly moving trains were so great as to demand especially heavy rails to prevent their taking a permanent set.

The second paper was devoted to a review of the past experiments to determine the mechanical equivalent of heat. The work of Joule, Schuster, Rowland and others was briefly outlined, and a curve sheet giving their results, all plotted to the same scale, for comparison, was exhibited. This showed quite clearly the inaccuracy of Joule's constant and the considerable difference between the later investigators.

ENGINEERS' CLUB OF ST. LOUIS.—This 466th meeting was held on Feb. 2 with 52 members and visitors present.

The Secretary announced the following programme of papers for the year 1898:

Jan. 5, "A Historic Sketch of Street Railways," R. McCulloch; Jan. 18, "Experiments with a New Machine for Testing Materials by Impact," S. Bent Russell; Feb. 2, "The Diesel Motor," Col. E. D. Meier; Feb. 16, "Recent Advances in Electric Railway Practice," R. McCulloch; Mar. 2, "Recent Improvements in Steam Ferries," Wm. H. Bryan; Mar. 16, "The St. Louis Coliseum," E. W. Sterne; Apr. 8, "U. S. Dredge Boats, 'Epsilon and 'Zeta,'" Edward Flad; Apr. 20, "A Modern Telephone Exchange," Fred. E. Bausch; May 4, "Filtration of Water," M. L. Holman; May 18, "The Recently Discovered Oil Fields of Texas," Thos. D. Miller; June 1, "Etchics of Engineering," and "Report of the Committee on Smoke Prevention," Chas. C. Brown.

Summer Recess.

Sept. 21, "Modern Central Lighting Stations," H. H. Humphrey; Oct. 5, "Repairs to the Mill Creek Sewer," B. H. Colby; Oct. 18, "The Streets of a Modern City," A. N. Milner; Nov. 2, "Roadways," Thos. H. Macklin; Nov. 16, "Concrete Walls," Robers Moore; Dec. 7, Annual Meeting; Reports of Officers and Committees; Dec. 21, Annual Dinner.

The paper of the evening, by Col. E. D. Meier, on "The Diesel Motor" was then read. The development of heat engines from their invention was traced, and the causes for the universal adoption of the steam engine as a heat motor were analyzed. The writer stated that the steam engine had now reached the limit of its efficiency, and gave the reasons for its low efficiency as a transformer of energy. Gas and oil engines were described and their merits discussed. The principles on which depend the action of the Diesel motor were given, with a description of the machine as built in Germany. Data was given as to the relative efficiency of the Diesel motor as compared with the steam engine. The paper was illustrated by drawings, cuts and photographs. The usual discussion followed.

Richard McCulloch, Secy.

TEXAS GAS AND ELECTRIC LIGHT ASSOCIATION.—This association, in conjunction with the Texas Street Railway Association, and Mexican Gas, Electric and Street Railway men, will hold a joint international meeting at Laredo, Texas, Mar. 9-12. This was decided at a joint meeting of the executive committees of these organizations, held Jan. 16. At the meeting various preliminary arrangements were made and a general program was adopted. This includes the usual routine business, such as reports of officers, etc., together with the following papers: "Meters vs. Flat Rates," J. R. Cullinane, Denison; "A Chapter on Accidents," Geo. B. Hendricks, Fort Worth; "Use and Abuse of Electrical Machinery, Apparatus and Appliances," Harry L. Monroe, Dallas; "Uniform Voltage Continuous Service," Geo. R. Cushman, San Antonio; "Car Bodies; their Maintenance and Repair," Frank E Scovill, Austin; "Street Mains and Service," J. H. Fitzgerald, Houston; "Trucks and their Maintenance," George D. Hartson, Dallas; "The Ups and Downs of the Manager," J. D. Oliger, Cheburne; "The Question Box" will be an interesting feature, and will be taken up at a convenient time during each session. "Instantaneous Water Heaters," Thos. D. Miller, Dallas; "Rail Bonding as a Power Saver," H. C. Chase, Houston; "Experiments in Efficiencies," E. F. Gibbon, Corpus Christi; "An Electric Furnace, Calcium Carbide, Acetylene Gas and other Forms of Gas," J. D. Cox, Galveston; "Rates for Electric Lighting," E. L. Wells, Jr., Marshall; "Ties, Their Life and Preservation," D. D. Willis, San Antonio; "Miscellaneous Matters," W. L. Hall, Mexico. The Mexican delegates will also present papers, the titles of which are not yet known. Several excursions are planned and the usual banquet will occur on the third day.

NEW PUBLICATIONS.

LITERARY MAGAZINES.—In the "Fortnightly Review" the artist, Joseph Powell, writes on "Cycles and Cycling," and his remarks have no small interest to Americans. He condemns the wooden rim and the single-tube tire in toto, looks with considerable skepticism on the chainless wheels and thinks that the American bicycles are not solidly enough built for touring in Europe. He remarks of the Pope Mfg. Co., that it is to cycle inventions what the late Barney Barnato was to the development of South Africa. The great English engineers' strike is discussed by a writer in the "Contemporary Review" from the labor standpoint, a side of which little has been heard on this side of the water. In the "Nineteenth Century" Mr. H. S. Hallet discusses "The Partition of China," a subject of no small interest in English commercial circles now. "America's Interests in China" are discussed by Gen. Jas. H. Wilson, in the "North American Review." In the same magazine Mr. J. H. Latcha, M. Am. Soc. C. E., writes on "Railways vs. Canals." Mr. Latcha holds that future economies in rail transport which may easily be effected will enable freight to be hauled from Chicago to New York at a cost of not more than 2.75 mills per ton mile, and at even half this for such articles as grain. Mr. Latcha brings an argument against the construction of a ship canal from the lakes to the Atlantic which is new to us. He declares that in the Northwest Territory is land which is capable of producing from 500,000,000 to 750,000,000 bushels of grain annually, and which will be settled and developed whenever its products can be carried to market cheaply enough. With a ship canal to the Lakes, says Mr. Latcha, wheat would be grown in this region and marketed at prices which would utterly destroy the wheat market of the United States abroad. This wheat, however, would be shipped at Port Arthur and would go via the St. Lawrence and Montreal to the sea, "destroying the grain export business of New York city." Mr. Latcha also presents reasons why the Nicaragua Canal should not be built, which are interesting if not conclusive.

"Harper's" for February contains an article by Senator Turpie on the Nicaragua Canal enterprise which we would heartily commend to every one of our readers interested in this matter. It is far and away the best statement of the position which every intelligent and public spirited citizen should hold toward this enterprise that we have anywhere seen.

In the "American Monthly Review of Reviews" there is quite a symposium on "Arctic Exploration," contributed to by Wellman, Nansen, Greeley, Melville and others. It is interesting to note that no less than five expeditions are to go to the Arctic Seas the coming season. In "The Cosmopolitan" Col. Geo. E. Waring writes on "The Utilization of City Garbage," and describes in an interesting way what New York lately has done in disposing of its garbage. As our readers may remember, New York's garbage is now taken to the disposal works on Barren Island, operated on the Arnold system. These are the largest garbage reduction works in the world, having a capacity of over 600 tons per day. "The Century" has a brief paper, with illustrations, on the Omaha Exposition, which is to be next summer's attraction to Westward travelers. Another paper in the same magazine that deserves mention here is "Heroes Who Fight Fire," by Jacob Riis. It is a story of some of the brave deeds of men in the New York Fire Department—deeds as well deserving of fame as any feat of arms of the days of chivalry. In "The Atlantic" Mr. Russell Sturgis writes on "The True Education of an Architect." We note with interest that Mr. Sturgis holds that the architect should be an artist, first and foremost. Iron and steel frame construction, he insists, are the engineer's business, and he would doubtless say the same of the machinery which now forms so large a part of the equipment of almost any modern building for business purposes, and even of many private residences. In fact, he declares that for many such structures the engineer and not the architect should be the one first consulted. The "Popular Science Monthly" has a portrait and brief biography of Mr. Chas. D. Walcott, Director of the United States Geological Survey, and also a paper from his pen on "The United States Forest Reserves."

THE METALLOGRAPHIST.—A Quarterly Publication Devoted to the Study of Metals, with Special Reference to Their Physics and Microstructure. Their Industrial Treatment and Applications. Edited by Albert Sauveur. Published by the Boston Testing Laboratories, 446 Tremont St., Boston, Mass. Vol. I, No. 1; Jan., 1898. Pamph.; 6×9 ins.; pp. 86; $2 per annum; single copies 60 cts.

From the "Introductory" we learn that the "Metallographist" proposes to present to its readers every three months a clear, exhaustive and comprehensive review of what has been accomplished in metallography during the previous quarter. The most important articles and memoirs will be reproduced in full, while those of minor importance will be condensed, accompanied by such explanatory notes as will make them comprehensible and fruitful for others besides specialists. It will also publish results of investigations made in the Boston Testing Laboratories, and original articles by eminent authorities. The leading papers in the first number are "Metallography Considered as a Testing Method," by F. Osmond; "The Microstructure of Steel and the Current Theories of Hardening," by Albert Sauveur; "The Present Condition of the Theories of Hardening," by H. Le Chatelier. The new journal will be cordially welcomed by those who are interested in the study of the microstructure of metals and of the possible industrial application of metallography in perfecting the methods of manufacture of iron, steel and other metals.

REPORT OF THE CONNECTICUT RAILROAD COMMISSION FOR 1897.—Washington F. Wilcox, Wm. A. Seymour, O. R. Flyer, Commissioners. Pub. Doc. Cloth, 6×9 ins.; pp. 634; folding map.

The contents of this report are about equally divided between matter relating to steam railways and matter relating to electric railways, the latter being given a prominence in the statistical tables and in the comments of the Commissioners which leaves no doubt as to the interest attracted in this one state at least by the growing competition of electric with steam railways for the local short distance passenger traffic. The Commissioners point out that during the year the decrease has been nearly $400,000 in the freight and passenger earnings of steam railways and remark that:

The electric lines already constructed and others about to be constructed, will inevitably reduce still further the amount of local, short distance travel on the steam roads, and it remains for the future to determine whether the long distance travel will be sufficiently increased to compensate the loss.

Attention is directed to the fact that the steam railways are making efforts to meet this competition in some cases by introducing the third rail electric system on some of their branch lines and in other cases by experimenting with a combined engine and car with which frequent and short trips can be made at a less expense than with a fully equipped locomotive and train. The length of electric railway lines in the state is now 385.7 miles, including 23.68 miles of sidings. The cost of construction and equipment per mile of line is $54,829 and the gross earnings $7,254, the operating expenses $4,720 and the net earnings $2,533 per mile operated. Dividends ranging from 1% to 8.4% were paid upon about two-thirds of the capital stock of electric railways. Accidents from the operation of electric railways during the year resulted in the death of 14 and the injury of 182 persons.

Complete statistics showing the results of operation are given for each electric and each steam railway company. These statistics occupy some 415 pages of the report, and are followed by a list of the statutes of the state relating to railways.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3 1-2 x 6 ins.; 6 x 9 ins., and 9 x 12 ins.)

ENGINEERS' INSTRUMENTS.—Heller & Brightly, cor. Spring Garden St. and Ridge Ave., Philadelphia, Pa. Cloth, 9×5¾ ins.; pp. 50; illustrated.

The special instruments manufactured by this firm, established in 1870, are described, along with the qualities which first-class instruments of each type should possess. The bulk of this issue of their catalogue is largely taken up with testimonials from the users of transits and levels made by this firm and with extracts from publications referring to their instruments and results obtained in use. A priced catalogue of instruments and of engineers' supplies is also given.

UNACCOUNTED FOR GAS.—Systematic Plan for Detecting Leaks in Street Mains. Patented by A. Bouvier. P. Hartenfelds, 120 Liberty St., New York city. Paper, 5 × 7 ins.; pp. 10; illustrated.

This pamphlet describes a system of testing gas mains for leaks. Devices called hydraulic isolators are inserted permanently in the gas mains, dividing the pipe system into districts. These isolators are short inverted siphons, or traps, with a central partition, so as to form a water seal. When it is desired to test a section the seal is made by admitting water to the isolator. Gas is then forced into the mains from a portable gasometer, provided with weights to increase the pressure. The bell of the gasometer is fitted with a gage and scale graduated into cubic feet. The velocity of the descent of the bell is noted as an indication of the leakage.

DIVING APPARATUS.—**Andrew G. Morse & Son, 140 Congress St., Boston, Mass.** Pamph., 10×7 ins.; pp. 24; illustrated.

This pamphlet illustrates and describes submarine armor, air-pumps of various types, the complete outfit of divers engaged in deep sea diving or in general service, telephones for divers, batteries for submarine blasting, etc. The pamphlet concludes with some interesting information for divers and instructions for dressing. Incidentally, this latter part notes that the greatest depth to which any diver has yet descended is 204 ft.; the atmospheric pressure at that depth withstood being 88½ lbs. per sq. in.

ENGINEERS' AND SURVEYORS' INSTRUMENTS.—Buff & Berger, 9 Province Court, Boston, Mass. Board; 9 × 6 ins.; pp. 150; illustrated.

This catalogue and price list well carries out its avowed intention of describing and illustrating the latest improvements in instruments made by this well-known firm. The essential features of the instruments made are described, as are the tools and appliances for manufacture and shop testing. One new feature is a so-called "cloth finish" to the exposed parts, which has various advantages; among others, a slight reduction in price. The catalogue, besides handsomely and fully illustrating the instruments made or imported, contains many pages of valuable information for the practicing engineer and surveyor.

WOOD PRESERVING.—**Carbolineum Wood Preserving Co., 21 Cliff St., New York, and Nashville, Tenn.** Pamph., 8½×5½ ins.; pp. 12.

The process of wood preserving here described is the invention of R. Avenarius & Co., of Germany, and is known by the name of "Carbolineum Avenarius." The basis of the compound used is the best and purest heavy coal-tar oils, and to this is added certain other powerful antiseptics, including chlorine. This pamphlet and accompanying circulars give the cost and method of treatment and set forth the merits of this compound in wood preserving as compared with other processes. The chief claim made for carbolineum is economy in cost combined with efficiency in use. We note that the ties for the tracks in the Boston Subway were all treated with carbolineum. The sole manufacturer in the United States is the Carbolineum Wood-Preserving Co., Mr. C. S. Kinney, Manager.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Feb. 10.	Electric light plant, Gallatin, Mo. Advertised, Engineering News, Jan. 20.		Jan. 20
Feb. 10.	Water-works, Gallatin, Mo. Advertised, Engineering News, Jan. 20.		Jan. 20
Feb. 10.	Tower,	Savannah, Ga.	Jan. 20
Feb. 10.	Lock, dam, etc.,	Yamhill River, Ore. Advertised, Eng. News, Jan. 6 to 27.	Jan. 6
Feb. 10.	**Library,**	**Pt. Elizabeth, Cape Good Hope.**	**Nov. 25**
Feb. 10.	Parkway,	Buffalo, N. Y.	Jan. 27
Feb. 10.	School building,	Wilkinsburg, Pa.	Feb. 3
Feb. 10.	Boiler covering, etc.,	Chicago, Ill.	Feb. 3
Feb. 10.	County bridges,	Des Moines, Ia.	Feb. 3
Feb. 10.	Electric lighting,	Ludlow, Ky.	Feb. 10
Feb. 10.	Electric lighting,	York, Pa.	Feb. 10
Feb. 11.	Stone paving,	Minneapolis, Minn.	Feb. 10
Feb. 11.	College buildings,	Missoula, Mont.	Jan. 20
Feb. 11.	Bridge,	Vancouver, Wash.	Feb. 3
Feb. 11.	Dam (400 ft. long),	Duquoin, Ill.	Feb. 3
Feb. 12.	Gas under franchise,	Painesville, O.	Feb. 3
Feb. 12.	Sewers,	Norwood, O.	Jan. 27
Feb. 12.	Macadamizing, etc.,	Norwood, O.	Jan. 27
Feb. 12.	Court house,	New Braunfels, Tex.	Feb. 3
Feb. 12.	Heating, etc.,	Binghamton, N. Y.	Feb. 3
Feb. 12.	Levee work,	New Orleans, La.	Feb. 10
Feb. 14.	Bridge,	Montesano, Wash.	Feb. 10
Feb. 14.	Bridge abutments,	Eagle, Colo.	Feb. 10
Feb. 14.	Brick and pipe sewers,	Toledo, O.	Feb. 10
Feb. 14.	Manhole castings, etc., (1 yr.),	Boston.	Feb. 10
Feb. 14.	Sewage flushing tunnel,	Milwaukee, Wis.	Feb. 10
Feb. 14.	Garbage disposal plant,	La Fayette, Ind. Advertised, Eng. News, Jan. 20 and 27.	Jan. 20
Feb. 14.	Bridge (96-ft.),	Vermillion, S. Dak.	Feb. 3
Feb. 14.	Steel bridge,	Woonsocket, R. I. Advertised, Eng. News, Feb. 3 and 10.	Feb. 3
Feb. 15.	Sewers, flushtanks, etc.,	Glenville, O.	Feb. 3
Feb. 15.	Steam road roller,	South Bend, Ind.	Feb. 3
Feb. 15.	Asylum building,	West Bend, Wis.	Feb. 3
Feb. 15.	Plans for jail,	Hampton, Va.	Feb. 3
Feb. 15.	Hire of dredging plant,	Mobile, Ala. Advertised, Eng. News, Jan. 20 to Feb. 10.	Jan. 20
Feb. 15.	Shore protection, etc.,	Ft. Morgan, Ala. Advertised, Eng. News, Jan. 20 to Feb. 10.	Jan. 20
Feb. 15.	**Trunk sewer,**	**Jersey City, N. J.**	**Dec. 23**
Feb. 15.	Filtration plant,	Albany, N. Y. Advertised, Eng. News, Jan. 6 to 27.	Jan. 6
Feb. 15.	Macadamizing, etc.,	Mount Vernon, N. Y.	Jan. 27
Feb. 15.	Sea wall,	Boston, Mass.	Feb. 10
Feb. 15.	Bridge (60 ft.)	Brookings, S. Dak.	Feb. 10
Feb. 15.	Steel boilers, (2),	Mount Vernon, O.	Feb. 10
Feb. 15.	Electric r'y (7½ miles),	Parkersburg, W. Va. Advertised, Engineering News, Feb. 10.	Feb. 10
Feb. 15.	Electric wiring, etc.,	Rome, N. Y.	Feb. 10
Feb. 15.	Armory work,	Binghamton, N. Y.	Feb. 10
Feb. 16.	Sidewalks,	Indianapolis, Ind.	Feb. 10
Feb. 16.	Paving brick,	Toronto, Ont.	Feb. 10
Feb. 16.	Elevators, etc.,	Toronto, Ont.	Feb. 10
Feb. 16.	Brick paving,	Cincinnati, O.	Feb. 10
Feb. 16.	Elevator,	Little Rock, Ark.	Feb. 10
Feb. 16.	Pipe sewers,	Indianapolis, Ind.	Feb. 10
Feb. 16.	Repairing bridge,	Indianapolis, Ind.	Feb. 10
Feb. 16.	County bridges,	York, Neb.	Jan. 20
Feb. 17.	Widening street,	St. Paul, Minn.	Feb. 10
Feb. 17.	Electric light plant,	Allegheny, Pa. Advertised, Eng. News, Feb. 3 and 10.	Feb. 3
Feb. 17.	Reservoir,	Braddock, Pa. Advertised, Eng. News, Feb. 3 and 10.	Feb. 3
Feb. 18.	Bridge over	Erie Canal, Buffalo, N. Y.	Feb. 10
Feb. 18.	Sidewalks,	Des Moines, Ia.	Feb. 10
Feb. 18.	Post office building,	South Omaha, Neb. Advertised, Eng. News, Jan. 27 and Feb. 3.	Jan. 27
Feb. 18.	Canal bonds ($3,230,000),	Albany, N. Y.	Feb. 3
Feb. 19.	Bonds,	Charleston, S. C.	Feb. 3
Feb. 19.	Lodge building,	Gibsonburg, O.	Feb. 3
Feb. 19.	Elevator,	Pueblo, Colo.	Feb. 10
Feb. 19.	Bridge ($15,000),	Lecompton, Kan.	Feb. 10
Feb. 19.	Heating, etc.,	Binghamton, N. Y.	Feb. 10
Feb. 20.	Canal, bridges, etc.,	Helena, Mont.	Feb. 3
Feb. 21.	**Vault, etc.,**	**Hartlestville, Tex.**	**Dec. 23**
Feb. 21.	Extending pier,	Margaree, N. S.	Jan. 13
Feb. 21.	Steel tow-boat,	Memphis, Tenn.	Jan. 27
Feb. 21.	Public building,	Barnesville, O.	Feb. 3
Feb. 21.	School building,	Ottumwa, Ia.	Feb. 10
Feb. 22.	Water-works,	Normal, Ill.	Feb. 10
Feb. 23.	Brick paving,	Elkhart, Ind.	Feb. 10
Feb. 23.	Church building,	La Crosse, Wis.	Feb. 10
Feb. 23.	Electric plant,	Ortonville, Minn.	Feb. 10
Feb. 23.	Laying water pipe,	Westfield, Mass.	Feb. 10
Feb. 23.	Water-works, etc.,	Ortonville, Minn.	Feb. 10
Feb. 23.	Laying water pipe, etc.,	Westfield, Mass. Advertised, Engineering News, Jan. 27.	Jan. 27
Feb. 23.	Water pump (3,000,000 galls.),	Erie, Pa. Advertised, Engineering News, Jan. 27.	Jan. 27
Feb. 23.	Water supply,	Jersey City, N. J.	Jan. 13
Feb. 24.	Water pipe,	Fort Harrison, Mont.	Jan. 27
Feb. 24.	Sewers, etc.,	Cleveland, O.	Feb. 3
Feb. 24.	Elevators,	Omaha, Neb. Advertised, Eng. News, Feb. 10 and 17.	Feb. 10
Feb. 24.	School building,	Boston, Mass.	Feb. 10
Feb. 24.	Heating, etc.,	Marion, O.	Feb. 10
Feb. 25.	Arc lights (175),	West Superior, Wis.	Feb. 10
Feb. 25.	School building,	Cleveland, O.	Feb. 10
Feb. 26.	Purchase l't and water plant,	Brunswick, Ga.	Jan. 20
Feb. 28.	Brick or granite block paving,	Toledo, O.	Feb. 10
Feb. 28.	Steel stand-pipe,	Maquoketa, Ia.	Feb. 10
Feb. 28.	Main sewer,	La Junta, Colo. Advertised, Engineering News, Feb. 10.	Feb. 10
Feb. 28.	Sewers,	Tampa, Fla. Advertised, Eng. News, Feb. 3 to 24.	Feb. 3
Feb. 28.	Steel towers, etc.,	New York. Advertised, Eng. News, Feb. 3 to 24.	Feb. 3
Feb. 28.	Dredging,	Keweenaw Pt., Mich. Advertised, Eng. News, Feb. 3 to 24.	Feb. 3
Feb. 28.	School buildings,	Anadarko, Okla.	Feb. 3
Feb. 28.	Harbor work,	Pernambuco, Brazil.	Jan. 13
Mar. 1.	Railway,	Henrietta, Tex.	Jan. 13
Mar. 1.	Church building,	Melrose, Minn.	Jan. 27
Mar. 1.	Naval supplies,	Mare Island, Cal.	Feb. 3
Mar. 1.	Railway (25 miles),	So. McAlester, Ind. Ter.	Feb. 10
Mar. 1.	Pipe sewers (2,800 ft.),	Elizabeth, N. J.	Feb. 10
Mar. 1.	Building work,	Roseau, Minn.	Feb. 10
Mar. 2.	Market house,	Cincinnati, O.	Feb. 10
Mar. 2.	Gravel roads,	Atlantic county, N. J. Advertised, Eng. News, Feb. 3 to 24.	Feb. 3
Mar. 3.	Electric lighting,	New London, Conn. Advertised, Eng. News, Feb. 10 to 24.	Feb. 10
Mar. 3.	Stop cocks, valves, etc.,	Cleveland, O.	Feb. 10
Mar. 3.	Water bonds, etc.,	East Cleveland, O.	Feb. 10
Mar. 4.	Steel plating,	St. Louis, Mo. Advertised, Eng. News, Feb. 10 to 24.	Feb. 10
Mar. 5.	Iron flagstaffs,	St. Louis, Mo.	Feb. 10
Mar. 5.	Pumping engine, foundations,	Chicago	Feb. 10
Mar. 5.	Improving road,	Cincinnati, O.	Feb. 10
Mar. 7.	Intercepting sewers,	Chicago, Ill. Advertised, Eng. News, Feb. 10 and 17.	Feb. 10
Mar. 7.	School bonds ($90,000),	Toledo, O.	Jan. 20
Mar. 7.	Refitting vault,	Waukegan, Ill.	Jan. 20
Mar. 8.	Jail building,	Madera, Cal.	Jan. 20
Mar. 8.	Jail building,	Grand Haven, Mich.	Feb. 10
Mar. 10.	Dredging,	Oakland Harbor, Cal. Advertised, Eng. News, Feb. 3 to 24.	Feb. 3
Mar. 15.	Steel submerged water pipe,	Portland, Ore. Advertised, Eng. News, Feb. 3 to Mar. 3.	Feb. 3
Mar. 15.	Electric light plant,	Sophia, Bulgaria	Feb. 10
Apr. 2.	School building,	Brandon, Minn.	Feb. 3
Apr. 4.	Wharf, franchise,	Summerland, Cal.	Jan. 27
Apr. 6.	Channel work, etc.,	Chicago, Ill.	Feb. 10
Apr. 30.	Town hall,	Singapore, S. S.	Jan. 13
May 1.	**Plans for sewage disposal,**	**Belper, Eng.**	**Dec. 16**
July 1.	Water power,	Madras, India	Oct. 28
No date.	Electric railway (2½ miles),	Clinton, N. J. Advertised, Eng. News, Feb. 3.	Feb. 3

RAILWAYS.

ALABAMA.—W. E. Brinckerhoff, Secy. and Treas., Montevallo Lump Coal Mining Co., Dogwood, Ala., informs us that the surveys have been made, the right of way obtained and the capital for construction secured for this proposed line from the Southern Ry., at Dogwood to the company's mines, 1½ miles distant. The contract is about closed. There will be required, approximately, 130 tons of 56-lb. relay rails, with angle or fish plates to match, also one switch and stub for Southern Ry., standard, and four sets of stub switches for sidings at mines. Quotations are asked on above supplies. Pres., J. B. Randall, Dogwood.

ALASKA & NORTHWESTERN.—This company was incorporated in West Virginia, Feb. 2, with a capital stock of $6,000,000, to construct a railway from the Lynn Canal to the northwest boundary of Alaska. The incorporators are Pierre Humbert, Jr., T. J. Scollans, S. W. Jones and F. W. Ames, of Boston, Mass.; George Campbell, Philadelphia, Pa. The principal place of business is to be in Providence, R. I.

CENTRAL MICHIGAN.—L. V. Davis, of Bruce Crossing, Mich., is reported as having been awarded the contract for furnishing 200,000 ties to be laid on this company's line, between Grand Haven, Mich., and Fremont, O. J. W. Boynton, Pres. and Treas., Grand Rapids, Mich.

CENTER & TENAHA.—This company has been incorporated in Texas, according to reports, with a capital stock of $12,000, to construct and operate a railway from Tenaha to Center, Tex., a distance of about 11 miles. The incorporators are, R. L. Parker, A. R. Chandler, W. J. Leister, B. F. Bridges and others.

CHOCTAW, OKLAHOMA & GULF.—F. A. Moliter, Ch. Engr., South McAlester, Ind. Ter., informs us that the contract for 40 acres of grubbing and cleaning, 92,000 yds. of graduation, 16,000 lin. ft. piling and 1,350 yds. of bridge masonry work on the extension of this road, from Wister, Ind. Ter., 6½ miles to a connection with the Kansas City, Oklahoma & Gulf R. R., was awarded to the Bracey-Welles Construction Co., Chicago, Ill. Other bidders were, J. J. Fox, Topeka, Kan.; Cahill & Coffey, Mena, Ark.; J. W. Maney and D. J. McDonald, of Kansas City. Surveys are being made from Fort Reno, Okla., to Custer county, and also from Shawnee, Okla., to Cushing; the latter extension will be built at once. Contracts will be let about March 1 for constructing a 25-mile extension from El Reno, Okla., to the South Canadian River.

CLEVELAND & NEW CASTLE.—This company was incorporated in Ohio, Jan. 26, with a capital stock of $10,000. It is proposed to build a railway from Cleveland through the counties of Cuyahoga, Summit, Trumbull, Portage and Mahoning. The incorporators are J. H. Dempsey, Andrew Squire, M. B. Whiting, Lon M. Snyder.

FORT WORTH & NORTHWESTERN.—This company has been incorporated in Texas, to build a railway from Fort Worth to Throckmorton, Tex., a distance of 120 miles. The incorporators are B. B. Paddock, Mayor of Fort Worth; W. A. Paddock, W. B. Paddock, J. H. McMillan, D. D. McMillan, D. D. McMillan, Jr.; E. T. Hollis, of Fort Worth; R. F. Arnold and S. R. Crawford, of Graham, Tex., and W. W. Cargill, of New York.

GREENBRIER.—Reports state that Rhinehart, Gooch, Carpenter & Shepperd, of Stanton, Va., have been awarded the contract for the construction of this proposed railway to extend from White Sulphur Springs to the coal and lumber regions at the fork of the Greenbrier River. M. E. Ingalls, Pres., Chesapeake & Ohio Ry., Cincinnati, O.; J. M. Gill, of Huntington, W. Va., are incorporators.

GUAYAQUIL & QUITO.—Edward Morley, Secy., 31 Broad St., New York, informs us that this proposed railway will be an extension of the present railway now in operation between Duran and Chimbo, Ecuador. The present line, which is about 65 miles long, will be remodeled and extended to Quito, thereby joining Guayaquil, which is connected with Duran by steam ferry across the Guayas River, with Quito. It will pass through the center of the great plateau of Ecuador, between the eastern and western chains of the Andes, a thickly populated district, and the railway itself will be at an elevation of from 8,000 to 12,000 ft. The difficulties in building this road are principally between Chimbo and a point to be reached on the plateau, 70 miles distant; the work on the plateau will be quite easy. As the present government under the presidency of General Alfaro is strong, and as the company is made up of prominent American and English capitalists, it is expected that the contract made with the government of Ecuador will be speedily and thoroughly carried out. Archer Harman, care of Kilbreth & Farr, 31 Broad St., New York; Peter Cooper Hewitt and John C. Kilbreth, of New York, are said to be among the incorporators of the company.

INDIANA, ILLINOIS & IOWA.—It is expected that some work will be done this year in reducing grades, particularly near South Bend, Ind., where some rather heavy work will be required. Gen. Mgr., T. P. Shonts, The Rookery, Chicago, Ill.

JASPER SOUTHERN.—W. W. Blake, Ch. Engr., Jasper, Tex., informs us that the right of way has been secured for this line, from Kirbyville to Jasper, a distance of about 21 miles, and grading has been completed except for ½ mile. The work is being done by the stockholders, and sufficient capital has been secured to put the line in operation. If weather is favorable, operation will begin by May. Pres., W. J. B. Adams, Jasper.

KRAMER & RANDSBURG.—Ramish & Marsh, 218 New High St., Los Angeles, Cal., inform us that an extension of this line to Keeler, Cal., from Randsburg, is contemplated, but it is not certain when work will commence. Pres., Edgar Van Etten, New York.

MEMPHIS & CHARLESTON.—Press reports state that L. B. McFarland, special master, will sell this railway at auction Feb. 26, at Memphis, Tenn., subject to the mortgage given to the State of Tennessee. The upset price is named as $2,500,000, and a deposit of $50,000 is required to qualify bidders.

NEW ORLEANS & OKLAHOMA CITY.—This company was incorporated in Oklahoma, Jan. 29, according to reports, with a capital stock of $4,000,000, to build a railway from Medford, Okla., to Sherman, Tex., via Oklahoma City. The directors are H. Overholser, D. C. Lewis, S. A. Steward, C. G. Jones and W. C. Renfrow.

NORFOLK, VIRGINIA BEACH & SOUTHERN.—Alfred Skitt, Pres., 3 Beaver St., New York, informs us that all the work is in progress and has been contracted for for the proposed extension of this railway from Kempville to Munden Point, Va., via Princess Anne Court House, Pungo and Creede, a distance of 22 miles. Seven miles have been finished and it is expected to run trains on March 20, connecting with steamboat lines operating on the Currituck and Albemarle sounds, in North Carolina. B. P. Holland, Gen. Supt., Norfolk, Va.

ST. LOUIS & SAN FRANCISCO.—Press reports state that Johnson Bros. & Faught, of St. Elmo, Ill., have been awarded the contract to build 110 miles of railway, between Sapulpa and Oklahoma City, Okla.; work to be completed within six months. The work was to be sub-let on Feb. 9 in 5-mile sections. M. S. Carter & Co., of St. Louis, is said to have the contract for all the bridge work.

ST. LOUIS, PEORIA & NORTHERN.—Wm. E. Guy, Pres., St. Louis, Mo., informs us that this railway is now in operation from St. Louis to Peoria, Ill., the recent extension from Springfield having been completed. Preliminary surveys have been made for the proposed extension from Peoria to Clinton, Mo., a distance of 85 miles, and it is expected to be built this summer. Robert Moore, Ch. Engr., St. Louis, Mo.; F. G. Jonah, Resident Engr., Springfield, Ill.

SAN FRANCISCO & SAN JOAQUIN VALLEY.—Foley Bros. & Muir, of St. Paul, Minn., were awarded the contract, Feb. 2, according to reports, for the construction of a tunnel for this line, 5,709 ft. in length, between Port Richmond and Stockton, Cal., estimated to cost about $400,000. W. B. Storey, Ch. Engr., 321 Market St., San Francisco, Cal.

SPRING GARDEN CONNECTING.—Frank Felkel, Ch. Engr., 703 Publication Bldg., Pittsburg, Pa., informs us that nothing has been done yet towards the construction of this line beyond securing a charter, as stated in our issue of January 27. The proposed route is from Pittsburg, through Reserve township to Allegheny, Pa., a distance of 3 miles. The motive power has yet to be decided upon. Pres., Wm. O. Kirkland, Beaver county, Pa.; Director, Jas. D. Swindell, Allegheny.

STOCKTON & TUOLUMNE.—Henry Brainerd, 189 West San Fernando St., San Jose, Cal., writes us that a careful reconnoissance survey has been made of the route of this proposed railway from Stockton to Summerville, Cal., showing the distance to be 65 miles, with a maximum grade of 119 ft. a mile. Location surveys will be made as soon as the right of way is fully obtained. Further information may be found in our issue of Jan. 27. Pres., Mrs. Annie Kline Rikert, San Francisco, Cal.

TACOMA & COLUMBIA RIVER.—Reports from Tacoma, Wash., state that D. M. Riddell has been awarded the contract for constructing a 6-mile extension of this line south from Lake Park. Rights of way are being secured preparatory to the letting of contracts for the building of further extensions. Pres., William Bailey, 66 Broadway, New York.

WASHINGTON & FRANKLIN.—This company was incorporated in Pennsylvania, Feb. 2, with a capital stock of $200,000. It is proposed to construct a railway from Altenwald, Pa., to Hagerstown, Md. The construction of this road is necessitated by the difficulty in passing the present heavy traffic of the Third Division of the Western Maryland R. R. over the heavy grades at Edgemont and Waynesboro. The directors are, Pres., W. U. Brewer, of Chambersburg, Pa.; J. M. Hood, Pres. Western Maryland R. R. Baltimore, Md.; T. M. Mahon, W. W. Patterson, Jacob J. Miller, Franklin Miller and Ottis Nicodemus.

WASHINGTON COUNTY.—R. F. Rivane, Calais, Me., informs us that he has 30 miles of this proposed railway under contract, and has 25 miles which he will sub-let to responsible parties. The line is projected to run from Calais to Ellsworth, Me., with a branch to Eastport, a distance of 120 miles. The locations are all made and most of the right of way obtained. Pres., George Curran, Calais; Ch. Engr., G. M. Rusling, Machias, Me.

WEST VIRGINIA.—F. F. Rumbarger, Gen. Mgr., Rumbarger Lumber Co., Dobbin, W. Va., informs us that the new line from Dobbin to the timber district, 15 miles distant, has been finished and is in operation with two Lima locomotives and 33 logging cars. D. R. Shule, Ch. Engr., Dobbin.

STREET AND ELECTRIC RAILWAYS.

WESTBROOK, ME.—A. S. Dickison, Ch. Engr., Westbrook, Windham & Harrison Ry. Co., informs us that the preliminary surveys have been made for this proposed electric line, and most of the right of way obtained. Contracts will probably be let in March. No work has yet been done on the grading, but engineers are now preparing plans for construction of the road in the spring. A subscription of $20,000 by the city of Westfield is being considered. The proposed route is from Westbrook to Harrison, via Gorham, Windham, Raymond, Casco, Otisfield and Naples, Me., a distance of 32 miles. Pres., J. C. Scates, Westbrook.

NORTH ABINGTON, MASS.—The Rockland & Abington Electric Ry. Co. has applied for a franchise to extend its line from North Abington to South Weymouth.

CHELMSFORD, MASS.—Henry S. Perham informs us that the route has not yet been determined for the proposed railway through this town, nor has a company been formed nor any definite action been taken upon the matter by the general court.

FITCHBURG, MASS.—The aldermen granted a franchise to the Fitchburg & Suburban St. Ry. Co., Feb. 1, for the construction of a line through Putnam, South and other streets to the Leominster line.

BONDSVILLE, MASS.—The directors of the Palmer & Monson St. Ry. Co. have decided to build the line in this town to the station of the Central Massachusetts R. R.

WORCESTER, MASS.—It is reported that the Worcester Consolidated St. Ry. Co. has ordered a new 12,000 HP. engine for its power station at Sutton Lane from the Lake Erie Engine Co., of Buffalo, N. Y., and that other improvements will also be made. The company has accepted a franchise from the aldermen for an extension of its line on Grafton St. to the city line. The route from here has not been definitely decided upon. Further extensions are also proposed.

MIDDLETOWN, CONN.—The Middletown St. Ry. Co. and the Portland Ry. Co. were consolidated, Jan. 29, with a capital stock of $135,000. It is proposed to extend the latter line in the spring from Gildersleeve to Glastonbury, where it will connect with the East Hartford line, thus making a continuous route between Middletown and Hartford. The new officers are: Pres., John M. Douglass, of Middletown; Vice-Pres., Israel Kelsey, of New Haven, Conn.; Secy. and Treas., James K. Guy, of Middletown; Supt., E. W. Goss, of Portland, Conn.

CLYDE, N. Y.—Reports state that the Clyde Electric Light & Power Co. is rapidly completing arrangements for the building of a trolley line from Clyde to Lake Ontario. Secy., L. L. Moses.

HONEOYE FALLS, MASS.—A proposition has been made by J. F. Witmer, C. E., 705 Ellicott Square, Buffalo, N. Y., and others to operate the Lima & Honeoye Falls R. R. by electricity.

MAMARONECK, N. Y.—A public hearing will be given to the application of the New York, Elmsford & White Plains Electric Ry. Co., Feb. 23, for a franchise to build a line through this village.—Application for a franchise has also been received by the village trustees from the Huguenot Electric Ry. Co., of New Rochelle, N. Y. For further information about this proposed 25-mile line see Engineering News, Jan. 27.

MARCELLUS, N. Y.—It is reported that a company has been organized to build an electric railway from this place to Marcellus station for freight and passenger traffic.

NEW YORK, N. Y.—Reports state that the Third Ave. R. R. Co. will substitute electricity for horse-power on its 42d St., St. Nicholas Ave. and Manhattanville lines, and also change the Fort Lee Ferry and Fort George lines from cable to electricity. Work is expected to begin this spring. Supt., J. H. Robinson, 65th St. and 3d Ave.

WATERFORD, N. Y.—The highway commissioners have granted the Stillwater & Mechanicsville Electric R. R. Co. a franchise to extend its line to the village limits. Pres., W. L. Denison, Stillwater, N. Y.

BLUERIDGE SUMMIT, PA.—Randolph Norwood, 529 North Charles St., Baltimore, Md., informs us that the surveys have been made and most of the right of way obtained for the Blueridge Electric Ry. Pres., Roger W. Barrow, West Pratt St.; Ch. Engr., J. Riley Weaver, 300 North Calvert St., both of Baltimore.

WASHINGTON, D. C.—Mr. Curtis, of Iowa, has introduced a bill in the House authorizing the Washington & Gettysburg Ry. Co. to construct a city and suburban division of its line in the District of Columbia for the carrying of passengers and small freight.—The Columbia R. R. Co. is seeking authority from Congress for changing the motive power from cable to the underground electric, and for the construction of extensive extensions to the system west of 15th St.

NORFOLK, VA.—It is reported that the Norfolk St. R. R. Co., at its annual meeting on Feb. 1, decided to spend $50,000 on improvements. E. P. Bell, Ch. Engr., 735 Church St.

PHOEBUS, VA.—The present legislature has granted charters to two electric railway companies for the construction of lines between Phoebus and Fox Hill, a distance of about five miles. They are known as the Phoebus & Fox Hill, in which E. M. Tennis, J. J. Routen and S. Gordon are interested, and the Seymour lines.

FAIRMONT, W. VA.—Owen S. McKinney, Fairmont, informs us that arrangements are being perfected for the securing of a free right of way for the proposed line of the Fairmont Electric Ry. Co. from Monongah to Fairmont, and thence to Amos, a distance of 20 miles. The capital for construction is being negotiated for. The incorporation of this company was noted in our issue of last week.

PARKERSBURG, W. VA.—Bids are asked by the Parkersburg Gas, Electric Light & Street Ry. Co., until Feb. 15, for constructing about 7½ miles of electric railway in this city, as stated in our advertising columns. Pres., C. H. Shattuck.

EAST BIRMINGHAM, ALA.—G. M. Williams, Gen. Mgr. Birmingham Traction Co., Birmingham, informs us that contracts have all been let for the proposed electric line from East Birmingham to Gate City, via Woodlawn, a distance of 6½ miles. The motors and generators are supplied by the General Electric Co., Schenectady, N. Y.; the engines by the Birmingham Foundry & Machine Co.; the boilers by the Birmingham Boiler Works; and the installing is being done by the Installation Co., of Chicago, Ill. Pres., A. T. London; Ch. Engr., Geo. H. Clark, both of Birmingham, Ala.

VICKSBURG, MISS.—Press reports state that the aldermen have granted to Percival Steel and others, of Chicago, a franchise for the construction of a street car line in this city, at least four miles of which are to be built by Dec. 1.

LANSING, MICH.—The right of way for the Lansing, St. Johns & St. Louis R. R. has all been secured and the building of the road will begin early in the spring. Pres., C. A. Mapes, Lansing.

CICERO, ILL.—The Cicero & Harlem Ry. Co. was incorporated Jan. 28, with a capital stock of $1,000,000, to build an electric railway from the east line of Cicero to the west line of Cook county. The first board of directors consists of D. H. Louderback, Benjamin C. Stidgert, Charles V. Weston, J. Charles Moore and Charles N. Whitehead.

OSHKOSH, WIS.—The Citizens' Traction Co. was granted a franchise, Feb. 2, for constructing an extension of its line to the proposed park in the southern part of this city. Pres., Geo. J. Kobush.

HANNIBAL, MO.—We are informed that the bonds for the extension of the Hannibal Traction Co.'s line in this city will soon be issued and the road improved so as to handle the traffic now offered. New attractions in the way of parks will be established. G. W. Chance, C. E., 14 South Broad St., Philadelphia, Pa., and D. Thompson, of Hannibal, are interested.

CORSICANA, TEX.—We are informed that a company will be organized and chartered within 30 days to construct 5 miles of electric railway, in accordance with a 25-year franchise recently granted to M. M. Bright, of Corsicana; E. L. Tyndale and associates. Construction is to begin within 90 days from Feb. 1. The contemplated motor power is the Patton electric motor system. No contracts have yet been awarded.

LOS ANGELES, CAL.—The Main, Fifth & San Pedro St. Ry. Co. was incorporated, Jan. 25, with a capital stock of $50,000. It is said that this is a reorganization of an old company, probably the Main St. & Agricultural Park R. R. Co., and that it is expected to make extensive improvements. The directors are Lovell White and Antone Borel, of San Francisco, Cal.; Frank Gibson, J. W. Hellman, J. C. Kays, J. Kuhrts and W. C. Patterson, of Los Angeles.

THREE RIVERS, QUE.—Press reports state that an application will be made to the Canadian Parliament for an act to incorporate the North Shore Electric Ry Co., which proposes to construct a railway on the north shore of the St. Lawrence River, starting from Three Rivers and through the district of Three Rivers and other districts in the Province.

ELECTRIC LIGHT AND POWER.

AUGUSTA, ME.—It is reported that the Kennebec Light & Heat Co. will begin the construction of its proposed new power plant in June. The new station will be able to furnish about 8,000 incandescent and 150 arc lights; estimated cost, $50,000.

FAIRFIELD, ME.—Reports state that A. G. Bowie, Waterville, Me., has completed plans for the proposed extension of the power plant of the Waterville & Fairfield Electric Ry. & Light Co. It will be 40×32 ft. with a wing 25×20 ft., one story high.

TEMPLETON, MASS.—It is stated that at the March town meeting the question of building a plant will be considered. Chas. Parkhurst, Town Clk.

NEW LONDON, CONN.—Bids are asked until March 3 for electric lighting and power installation at Great Gull Island, N. Y., as stated in our advertising columns. Maj. S. S. Leach, U. S. Engr., New London.

AVOCA, N. Y.—The question of a municipal plant will probably be voted upon at the annual election, according to reports.

BROOKLYN, N. Y.—It is reported that bids are being considered for constructing the proposed power plant, 210×150 ft., at the foot of Gold St., for the Kings County Electric Light & Power Co.; estimated cost, $300,000. Archs., Crane & Murray, Albany, N. Y.

BUFFALO, N. Y.—Plans are completed for substituting electric power for steam, from Niagara Falls, for the operation for the power plants of the Buffalo General Electric Co., according to reports. It has not been decided whether to have one new power station or two. The contracts have been let and preliminary work begun. The work will probably be completed in about five months. The General Electric Co., Schenectady, N. Y., has the contract for the machinery; estimated cost, $200,000. Gen. Mgr., Chas. R. Huntley.

LE ROY, N. Y.—A bill has been introduced in the legislature authorizing this place to vote on the question of issuing $40,000 in bonds for a plant.

ROME, N. Y.—Bids are asked until Feb. 15 for installing a system of electric wiring and fixtures in the center building of the Rome State Custodial Asylum. John F. Fitzgerald, Supt.

SHERBURNE, N. Y.—The Utica Electrical Mfg. & Supply Co., Utica, N. Y., has closed contracts for a plant of 150 lights at the Highland Knitting Co.'s mill; for a similar plant at the Sherburne knitting mill, and to equip the new house erected on Otsego Lake by S. S. Spaulding, of Buffalo. This contract includes belts, telephone, speaking tubes, electric wiring, gas, etc.

TONAWANDA, N. Y.—This city voted, Jan. 29, against a municipal plant, to cost $25,000. It is now probable that a 3-year contract will be awarded to the Tonawanda Lighting & Power Co.

JERSEY CITY, N. J.—We are informed that the following bids were received Feb. 3 by Edward W. Woolley, Clk. Bd. County Freeholders, for furnishing and installing two arc dynamos at the Snake Hill power house:

Henry Byrne, Jersey City, N. J.	$8,230
The Walker Co., 1 Nassau St., New York	8,900
Hyer-Sheehan Electric Motor Co., Newburg, N. Y.	7,878
Hyer-Sheehan Co., Newburg, N. Y.	8,100
Jas. S. Barron & Co., Duane and Hudson Sts., N. Y.	8,497
J. S. Barron & Co., Duane and Hudson Sts., N. Y.	7,900
A. K. Bonta, Hoboken, N. J.	7,630

ASPINWALL, PA.—The Western Electric Co., Chicago, Ill., and Kerr & Co., are reported to have been awarded the contract for building a plant at $4,000.

PATTON, PA.—Geo. S. Good, Patton, is reported to have been granted a franchise.

SHAMOKIN, PA.—The council has awarded the contract for furnishing 35 arc lights of 2,000 c. p. each for five years, to the Shamokin Arc Light Co., at about $15,750. The only other bidder was the Shamokin St. Ry. Co., who had a temporary contract for lighting the town. F. A. Clark, Chn. Com.

TAMAQUA, PA.—The question of a municipal plant will again be voted upon at the election this month, according to reports. Wm. C. Conrad may give information.

YORK, PA.—Bids are asked until Feb. 10 for lighting the streets and public buildings of this city for a period of one year. Jos. Parkhurst, Chn. Com.

CHESTERTOWN, MD.—The proposed plant of the Chestertown Electric Light Co. will consist of a 1,000 HP. engine and boiler, a 1,000 16-c. p. dynamo, etc.; estimated cost, $15,000. The company has secured a franchise for lighting the town. Supt. and Des. Engr., J. King Wright. Pres., A. M. Hoffman.

OAKLAND, MD.—Press reports state that a bill has been sent to the legislature authorizing this place to issue $25,000 in bonds for an electric light plant and street improvements.

POCOMOKE CITY, MD.—E. W. Veasey, Clk., writes us that a bill will be sent to the legislature authorizing this place to vote on the question of issuing $30,000 in bonds for a plant, water-works and a sewerage system.

GRAFTON, W. VA.—The Fort Wayne Electric Corporation, Fort Wayne, Ind., is reported to have been awarded the contract for furnishing and erecting a plant of 100 arc lights at $8,600.

MONTGOMERY, W. VA.—G. W. Champe writes us that nothing has yet been done in regard to securing plans for a plant and water-works; nor is it probable that anything is likely to be done soon.

PIEDMONT, W. VA.—The council is reported as considering the question of electric lighting.

CHARLOTTE, N. C.—It is reported that the Piedmont Clothing Mfg. Co. wishes to purchase a 150-light dynamo, engines, boilers, etc., for its mills.

ALBANY, GA.—The question of purchasing and improving, at a cost of $5,000, the plant of the Albany Illuminating Co. is being considered, according to reports.

TENNILLE, GA.—It is reported that the question of building a plant and water-works is being considered.

LAKE CITY, FLA.—It is reported that the Electric Light & Water Co. will furnish this place with 25 arc lights.

ORLANDO, FLA.—We are informed that the proposed plant will require a 100-HP. engine, and a 100-HP. tubular boiler, to be delivered at Jacksonville, Fla. Des. Engr., H. E. Robinson, Formosa, Orange county, Fla.

DOVER, TENN.—A. M. Tippit, P. M., writes us that he has under consideration the question of putting in a plant at some future time.

LUDLOW, KY.—Bids are asked by the light committee until Feb. 10 for lighting this place with electricity, according to reports.

SIDNEY, O.—F. W. Bacon proposes to build a plant at his mill to light the city.

SPRINGFIELD, O.—We are informed that Clarence Smith, C. A. Shuster, Duncan McDonald, J. C. Trimmer and Martin Franz have been appointed a committee by the council to consider the question of municipal ownership of the electric light plant. Up to Jan. 31 the committee had not reported.

ALBANY, IND.—The C. L. Olds Construction Co., Fort Wayne, Ind., has been awarded a contract, at about $20,000, for constructing an electric light plant at this place.

CHARLOTTE, MICH.—Reports state that the council is making arrangements to receive bids for an electric light plant in connection with the water-works.

DAVISON, MICH.—E. A. Boss, Clio, Mich., writes us that nothing has yet been done about the plant at this place, reported in last week's issue. It is probable something will be done in about three months.

DETROIT, MICH.—The public lighting commission proposes to erect a separate plant for the new county court house, at a cost of about $31,500. F. Starring, Secy., 40 Atwater St.

LANSING, MICH.—We are informed that the municipal plant will be improved by the addition of a new engine (probably a Corliss type) of about 500 HP. Correspondence from engine manufacturers is solicited. J. P. Thoman and Wm. Donavan, Comrs.

FARMINGTON, IA.—At a recent election this place is reported to have voted to build a plant.

MARBLE ROCK, IA.—This place is to be lighted by electricity, according to reports.

NEOLA, IA.—An election will be held Feb. 14 to vote on the question of issuing bonds for a plant, according to reports.

WILLIAMSBURG, IA.—H. F. Shotts, Mayor, writes us that the city will put in a plant and enlarge the water-works during the spring. Mayor Shotts wishes to correspond with manufacturers of the necessary supplies.

ORTONVILLE, MINN.—Bids are asked until Feb. 23 for constructing a plant and water-works; estimated cost, $15,000. Engr., C. F. Loweth, St. Paul; Recdr., S. A. Thomas.

WEST SUPERIOR, WIS.—Bids are asked until Feb. 25 for furnishing 175 2,000-c. p. arc lights for three, five or ten years. Chas. Lomas, Cy. Clk.

GRAND FORKS, N. DAK.—The council has awarded contracts to James Dinnie for constructing a building and to W. I. Gray & Co., Minneapolis, Minn., for installing the electric light plant.

LINCOLN CENTER, KAN.—It is reported that an electric light plant is to be established here.

OSAGE CITY, KAN.—It is reported that this city will vote on the question of constructing and maintaining its own electric light plant.

HOT SPRINGS, ARK.—Arrangements are reported as being made for constructing a plant of about 100 arc lights and water-works. Geo. H. Lowey, Cy. Clk.

ELDORA, COLO.—Press reports state surveying for the new electric power and light plant at Eldora will begin immediately. The exact location has not yet been decided upon. The water will be piped to the plant, and in a short distance a fall of 600 ft. can be gained. It is expected to develop 500 HP. at the start. This will furnish not only light to the town, but power to the mines. It is reported that W. S. Stratton, of Colorado Springs, has purchased $75,000 worth of mining property near the town, and the power to be furnished will come from this electric plant.

MONTROSE, COLO.—The Montrose Electric Lighting Co. will extend its plant, according to reports. E. S. Castener and Capt. N. G. Clark are interested.

AZUSA, CAL.—Bids are being received by Eisen & Hunt Archs., Los Angeles, Cal., for the construction of a brick power house, 50 ft by 42 ft., for the San Gabriel Power Co., to be built at this place, according to reports.

VENTURA, CAL.—It is reported that an election will be held to vote on the question of issuing bonds for building a municipal plant. The old plant was destroyed by fire, at a loss of $15,000, noted in our issue of last week.

ROSSLAND, B. C.—Press reports state that Orson D. Archer & Son, New York, and R. T. Daniel, Trail, B. C., are interested in a power plant at the Kootenai Hydraulic Mining Co.'s old plant on the Pend d'Oreille, near Waneta,

a distance of 17 miles. About $170,000 has been subscribed to the new enterprise, and there is still some 200,000 shares of stock on hand. At first the plant will have a capacity of 750 HP., but it is intended to construct it so that an additional 1,250 HP. can be secured. Besides selling power to the mines here, the company wishes to supply Ymir and Northport as well. Archer & Son are not in the New York directory.

SOPHIA, BULGARIA.—Bids are asked by the city authorities until March 15 for constructing a plant, according to reports; deposit, $30,000.

NEW COMPANIES.—Heightstown Electric Light & Power Co., Heightstown, N. J.; $25,000, with $6,500 paid in; Francis J. Thorn, Delaneo, N. J.; Chas. P. Fitch, Beverly, N. J.; Theo. D. Nostrand, Philadelphia, Pa.

Calker Light Mfg. Co., Chicago; $100,000; Edward J. Ryan, Henry C. Marston, Hyde Park Hotel; Thomas D. Shannon.

Sterling Electric Co., Chicago; $30,000; Edward A. Biggs, John E. Hunt, 600 No. Oakley Ave.; Walter I. Hall, 4250 Cottage Grove Ave., Chicago.

South Illinois Electric Light Co., St. Elmo, Ill.; $20,000; W. L. Stocker, G. W. Harlan, A. J. Johnson.

Central Electric Co., Painesville, O.; $10,000.

Chestnut Hill Electric Co., Philadelphia; $10,000; Robert J. Moore, Daniel J. McNichol, Samuel F. Clevenger, William Macdonald, William N. Topham, Edward White, Samuel W. Wray.

BRIDGES.

BOSTON, MASS.—The Boston Transit Commission received bids Feb. 3 for constructing the draw foundation and fender piers for the Charlestown bridge, from the following local bidders. B. Leighton Beal, Secy.: W. L. Miller and W. H. Ellis, $78,460; E. W. Everson & Co., $66,400; Perkins, White & Co., $63,200.

ADAMS, MASS.—City Engineer Emigh has recommended the construction of a bridge on State St., for which an appropriation was made last year.

WATERFORD, N. Y.—Reports state that application has been made to the highway commissioners to erect a bridge across the Hudson River at the Porter property, to connect with Lansingburgh, for the purpose of extending the Stillwater & Mechanicsville Electric R. R. across the river at this place.

BUFFALO, N. Y.—A bill has been presented to the legislature asking for an appropriation of $36,000 for constructing a bridge over the Erie Canal at Erie St., and $70,000 for a bridge over Black Rock Harbor at Ferry St.

BUFFALO, N. Y.—Bids are asked until Feb. 18 for constructing a bridge over the Erie Canal at Hamilton St. Geo. W. Aldridge, Supt. Pub. Wks., Albany.——Bids are asked for the superstructure of the Hamburg St. viaduct. ——The grade crossings Commissoiners have given the work of preparing plans for the Abbott Road crossing to Frank C. Osborn, Hickox Bldg., Cleveland, O.

MOUNT VERNON, N. Y.—It is reported that the board of aldermen has decided to construct a bridge, to cost about $30,000, over the Hutchison River at Fulton Ave.

NORTHUMBERLAND, N. Y.—Samuel Baker, Asst. Postmaster, informs us that there is no possibility of a bridge being built across the Hudson River to Fort Miller this year, reported as being considered in our issue of last week.

PITTSFORD, N. Y.—A bill for the appropriation of $19,000 to construct a bridge over the Erie Canal at this place has been presented to the legislature.

ROME, N. Y.—Senator Coggeshall has asked for an appropriation of $8,000 for the construction of a bridge over the Erie Canal.

TRENTON, N. J.—Reports state that a contract has been awarded to the New Jersey Steel & Iron Co., Trenton, for constructing a bridge weighing 4,000,000 lbs., over the Delaware River, for the Pennsylvania R. R. Co.

LYNDHURST, N. J.—The Delaware, Lackawanna & Western R. R. Co. will repair its bridge over the Passaic River at this place this month.

MOUNT SAVAGE, MD.—Local papers state that the Cumberland & Pennsylvania R. R. Co. will construct a new steel bridge over Will's Creek.

NEWPORT NEWS, VA.—Mayor Walter A. Post has recommended the construction of bridges at 25th St. and 34th St., over the Chesapeake & Ohio Ry., to cost about $20,000 each. Application has been made to the legislature for authority to issue one-half the cost in bonds to be borne by the city.

EAST CLEVELAND, O.—Reports state that the council and county commissioners will build a $5,000 culvert over Nine-Mile Creek, at Euclid Ave.

ELYRIA, O.—A proposition to construct a bridge over Black River, Lorain county, at a cost of about $170,000, will be voted upon in April.

PEORIA, ILL.—The following bids were received Feb. 2 for constructing the superstructure of a bridge to be 60 ft. by 20 ft., arched Pratt truss, on the old stone foundation, in Laura Bradley Park:

Thacher Parker, Terra Haute, Ind	$1,155
Wisconsin Bridge Co., Milwaukee, Wis	1,174
Massillon Bridge Co., Massillon, O	1,255
Lafayette Bridge Co., Lafayette, Ind	1,194
Joliet Bridge Co., Joliet, Ill	1,280
Milwaukee Bridge Co., Milwaukee, Wis	1,200
Canton Bridge Co., Canton, O	1,250
King Bridge Co., Cleveland, O	1,298
Bellefontaine Bridge Co., Bellefontaine, O	1,335
R. H. Phillips, St. Louis, Mo	1,238
Western Bridge Co., Chicago, Ill	1,199
Clinton Bridge & Iron Works, Clinton, Ia	1,315
Indiana Bridge Co., Muncie, Ind	1,349
Lucas & Co., Peoria, Ill	1,460
Dotty & Son, Peoria, Ill	1,200
Oregonia Bridge Co., Cincinnati, O	1,380

INDIANAPOLIS, IND.—Bids are asked by the board of public works until Feb. 16 for repairing the wooden bridge over White River at Washington Ave.

ROCK ISLAND, ILL.—The following bids were received Feb. 3 for constructing a 40-ft. by 14-ft. steel span bridge on the present foundation, at South Rock Island:

Indiana Bridge Co., Muncie, Ind.	$440
Joliet Bridge Co., Joliet, Ill	469
Milwaukee Bridge Co., Milwaukee, Wis	494
Western Bridge Co., Chicago, Ill	458
Stupp Bros. Bridge Co., St. Louis, Mo	435
Bellefontaine Bridge Co., Bellefontaine, O	439
Massillon Bridge Co., Massillon, O	437
Wisconsin Bridge Co., Milwaukee, Wis	500
St. Louis Bridge Co., St. Louis, Mo	440
Clinton Bridge & Iron Works, Clinton, Ia. (accepted)	413

LECOMPTON, KAN.—Bids are asked by the county clerk at Lawrence, until Feb. 18, for constructing a bridge over the Kaw River, to cost about $15,000.

BROOKINGS, S. DAK.—Bids are asked until Feb. 15 for the construction of a 60-ft. span bridge, wood or combination, across the Sioux River, according to reports. J. T. Nelson, County Clk.

LARAMIE, WYO.—Henry L. Tascall, County Clk., informs us that the following bids were received Feb. 1 for constructing three county bridges: Victor Braumier (accepted), $718; A. S. McKay, $933; Charles Hecht, $950.

EAGLE, COLO.—Bids are asked until Feb. 14 for constructing a pier and two abutments for the bridge across Eagle River, according to reports. Geo. E. Bowland, County Clk.

MONTESANO, WASH.—Bids are asked until Feb. 14 for constructing a bridge over Porter Creek. J. A. Sollis, County Audr.

OAKLAND, CAL.—Reports state that a petition will be presented to the county supervisors for the construction of a stone or concrete bridge across the San Leando River to replace the old structure.

SANTA ROSA, CAL.—We are informed that nothing will be done for several months toward the construction of a bridge at Hills Crossing and Russia River. Somers B. Fulton, County Clk.

COEUR D'ALENE, IDAHO.—C. A. De Saussna, Coeur D'Alene, informs us that a petition has been presented to the county commissioners for the construction of a wooden bridge across the Spokane River below Fort Sherman, to be 500 ft. to 600 ft. long, at an estimated cost of about $5,000, of which $2,500 will be donated by the citizens. No plans or estimates have yet been prepared.

MONTEREY, MEX.—Bids are asked until Feb. 25 for the masonry work of three large iron bridges on the Monterey & Mexican Gulf Ry. A. Monnom, Gen. Mgr., Monterey.

BUILDINGS.

BOSTON, MASS.—Bids are asked by the board of education, until Feb. 24 for constructing a brick school building on Prince St., and also for furnishing and installing a heating and ventilating apparatus. Archs., Peabody & Stearns, 53 State St.

SPRINGFIELD, MASS.—Plans have been prepared for the museum of science building, to be erected in this city by the City Library Association, at a cost of about $40,000. It is expected that work will commence in the spring. Archs., Gardner, Pyne & Gardner, 33 Lyman St.

BINGHAMTON, N. Y.—Bids are asked until Feb. 19, according to reports, for the electric wiring, plumbing and heating and ventilation of a laundry building for the Binghamton State Hospital. J. B. Stanbrough, Pres. Bd. Mgrs. ——Bids are asked, until Feb. 15, for repairs and improvements to the state armory at this place. Benjamin Flagler, Ch. of Ordnance, State Arsenal, 35th St. and 7th Ave., New York.

CLAYTON, N. Y.—It is reported that J. Dall, 13 East 17th St., New York, has been awarded the contract for erecting a club-house for the St. Lawrence Club; estimated cost, $60,000. Archs., Dehli & Howard, 1193 Broadway, New York.

NEW YORK, N. Y.—Press reports state that Clarence True, Architect and Builder, 459 Boulevard, proposes to erect thirty dwellings, between 79th and 80th Sts., fronting on Riverside Drive.——Plans have been filed by J. T. & J. A. Farley, Nevada Apartment House, for eight 5-story brick flat and store buildings, at 69th and 70th Sts. and West End Ave., to cost $170,000. Archs., Thom & Wilson, 111 5th Ave.; by John Hickey, 83 East 110th St., for two 5-story brick flat and store buildings at 109th St. and the Boulevard, to cost, $50,000. Archs., Neville & Bagge, 217 West 125th St.; by the city for a 2, 5 and 6-story brick school building, at 58th and 59th Sts. and 10th Ave., to cost $382,000. Arch., C. B. J. Snyder, 585 Broadway; by John P. Ellis, for three 5-story brick flat buildings on 159th St., near Amsterdam Ave., to cost $60,000. Arch. Edward Wenz, 1491 3d Ave.; by estate of J. J. Astor, 23 West 26th St., for a 14-story brick and stone office building at Broadway and Duane St., to cost $350,000. Arch., G. B. Post, 33 East 17th St.; by Arthur Gorsch, 1444 3d Ave., for four 5-story brick flat and store buildings at 106th St and 1st Ave., to cost $63,000. Arch., W. O. Talt, 1236 Madison Ave.; by Wm. E. Diller, 62 West 69th St., for three 4 and 5-story brick dwellings on 79th St., near Columbus Ave., to cost $120,000. Arch., G. A. Schellenger, 128 Broadway; by Baker, Williams & Co., for two 7-story brick store buildings at 386 to 392 West 12th St., to cost $50,000. Archs., Renwick, Aspinwall & Owen, 367 5th Ave.; by Charles Lane, 243 East 38th St., for four 5-story brick flat buildings at St. Ann's Ave. and 142d St., to cost $115,000. Arch., Harry T. Howell, 138th St., near Brook Ave.

ATLANTIC CITY, N. J.—A fire in this city, Feb. 7, destroyed the Academy of Music, the Bryn Mawr Hotel and adjacent buildings. Reported loss, $65,000.

HARRISBURG, PA.—The new capitol commission, Feb. 7, received the following modified bids for the construction of the new capitol building; the contract will not be awarded until after the court disposes of the injunction proceedings brought by the Attorney-General:

McIlvaine, Unkever & Co., Pittsburg, Pa.	$499,300
P. J. Carlin & Co., Brooklyn, N. Y.	485,758
Edwin T. Williams, Scranton, Pa.	480,000
Henry Schuddemage, Harrisburg, Pa.	914,750
R. A. Malone, Lancaster, Pa.	542,132
Norcross Bros., New York, N. Y.	1,155,000
Allan B. Rorke, Philadelphia, Pa.	525,000
Ball & Jones, Harrisburg, Pa.	428,000

PHILADELPHIA, PA.—A fire in this city, Feb. 7, destroyed the 6-story building at 42 and 44 North 3d St., occupied by Blumenthal Bros., wholesale clothiers. Estimated loss, $75,000; fully insured.

PITTSTON, PA.—Conrad Schoerder & Sons, of Scranton, Pa., have been awarded the contract, according to reports, for erecting a convent at this place, at $34,590.

SCRANTON, PA.—A fire in this city, Jan. 3, destroyed the Y. M. C. A. building, causing a reported loss of $160,000; insurance, $90,000. At a meeting of the directors, Feb. 4, it was decided to erect at once a new $100,000 building.

BALTIMORE, MD.—Reports state that Geo. A. Fuller & Co., Boston, Mass., have been awarded the contract for erecting a 10-story office building for the Massachusetts Building Co.; estimated cost, $400,000. Archs., Winslow & Wetherill, 3 Hamilton Place, Boston.

WASHINGTON, D. C.—The Treasury Department has awarded the contract for the interior finish of the new City Post Office Building to D. S. Hess & Co., of New York, at $319,400. It has been decided to use marble tiling instead of mosaic tiling, making a difference in the cost of $10,500.

NORFOLK, VA.—Zellers & Co., Washington, D. C., were the lowest bidders, Feb. 7, for the installation of a low-pressure hot water heating apparatus in the post office building in this city, at $2,960; time, 40 days.

PARSONS, W. VA.—Reports state that plans are being prepared for a new court house for Tucker county, to cost $30,000. Arch., Frank P. Milburn, Charlotte, N. C.; Comrs., W. E. Cupp and W. R. Davis.

WAYNE, W. VA.—A fire at this place, Feb. 3, destroyed Smith's Hotel, Walker's Hotel and adjacent buildings, causing a reported loss of $60,000.

AIKEN, S. C.—The Highland Park Hotel was burned, Feb. 6, causing an estimated loss of $140,000; insurance, $98,000.

NEW ORLEANS, LA.—The contract for general repairs and alterations to the old French Market has been awarded to Charles H. Charlton, Jr., of this city, at $11,500. Work will commence immediately.

CINCINNATI, O.—Bids are asked, until March 2, for erecting a new market house on Pearl St., between Broadway and Sycamore St. Archs., Samuel Hannaford & Sons, 6th and Vine Sts.; Aug. Herrmann, Pres. Bd. Administration.

CLEVELAND, O.—Bids are asked, until Feb. 26, for erecting an 18-room school building in this city. H. Q. Sargent, School Director, 190 Euclid Ave.

MARION, O.—Bids are asked, until Feb. 24, for steel ceiling, lighting, steam heating and otherwise completing the new church building for the St. Mary's Catholic Church.

ALBANY, IND.—The Speicher business building was destroyed by fire Feb. 5, causing a reported loss of about $75,000.

NEW ALBANY, IND.—The church building of the First Presbyterian Church was burned Feb. 2. Loss $50,000; insurance, $20,000.

GRAND HAVEN, MICH.—Bids are asked by the county clerk of Ottawa county, until March 8, for erecting a new 2-story brick jail building, 28×42 ft. Archs., Fairfield & Olds, Grand Rapids, Mich.

CHICAGO, ILL.—Plans have been prepared, according to reports, for the remodeling of the Union Depot, on Canal St. Arch., D. H. Burnham & Co., The Rookery.——Plans have been prepared for an additional story to the New York Life Bldg., at Monroe and La Salle Sts., also for a 13-story addition to the same, 80 × 90 ft., the total cost to be about $115,000. Work to be started at once. Archs., Jenny & Mundie, Home Insurance Bldg.——Robert C. Berlin, Schiller Bldg., has prepared plans for a 4-story store building to be erected at 937 and 945 Milwaukee Ave.; cost, $80,000. L. L. Leach & Son have the general contract.

PLAINFIELD, ILL.—The fire at this place, Feb. 4, destroyed the Evarts Block and the store of Hays & McCreary and Upton & Wuley. Reported loss, $50,000.

LA CROSSE, WIS.—Bids are asked until Feb. 23 for the erection of a church building for Christ Church. Archs., Detweiler, Restieuax & Co., Eberly Block, Columbus, O.; J. J. Wilkins, D. D., La Crosse, may be addressed.

MILWAUKEE, WIS.—The following bids were received Feb. 1 for placing one passenger and two freight elevators in the public library and museum building: Smith-Hill Elevator Co., Quincy, Ill., $5,156; Standard Elevator Mfg. Co., Milwaukee, $5,450; Eaton & Prince Co., Chicago, Ill., $6,500; Kleckhefer Elevator Co., Milwaukee, $5,300; Henry Vogt Machine Co., Louisville, Ky., $4,611.

OTTUMWA, IA.—Bids are asked until Feb. 21 for the construction of a high school building in this town; deposit required, $500. J. A. Wagner, Secy. Bd. Directors; Clinton Nousse, Arch., Des Moines, Ia.

ROSEAU, MINN.—Bids are asked by the county auditor until March 1 for remodelling the Commercial Hotel Building into a county office building.

HAYS CITY, KAN.—Zeigler & Dalton, Junction City, Kan., have been awarded the contract for erecting the new court house, at $13,599. Work to be completed by Oct. 1.

JUNCTION CITY, KAN.—The city council has decided to rebuild the city hall and opera house, which was recently destroyed by fire. The cost of the old building was $31,000.

OMAHA, NEB.—Bids are asked by the supervising architect, Washington, D. C., until Feb. 24, for erecting two hydraulic passenger elevators, one hydraulic mail lift and one hydraulic ash lift, etc., for the U. S. court house, custom house and post office building, as stated in our advertising columns.

DALLAS, TEX.—The following bids were received by the supervising architect, Washington, D. C., for (a) hydraulic, or (b) electric, passenger elevators in the post office building, Dallas: Otis Bros. & Co., New York, (a) $5,100, (b) $3,900; Morse, Williams & Co., Philadelphia, Pa., (a) $4,618; Crane Elevator Co., Chicago, Ill., (a) $4,000; (b) $3,500; Sprague Elevator Co., New York, (a) $5,100, (b) $3,700.

HOUSTON, TEX.—The International & Great Northern Ry. Co. has taken out a permit to erect a brick and granite passenger station, to cost $40,000.

LITTLE ROCK, ARK.—Bids are asked by the supervising architect, Washington, D. C., until Feb. 16, for erecting an electric passenger elevator for the U. S. court house building in this city.

PUEBLO, COLO.—Bids are asked by the supervising architect, Washington, D. C., until Feb. 19, for erecting a hydraulic elevator in the post office building in Pueblo.

WALLA WALLA, WASH.—J. R. Addison has received the contract for erecting a 7-story hotel in this city, to cost $60,000, according to reports.

EUGENE, ORE.—Bids are asked, until Feb. 21, for erecting the superstructure of the new county court house. Arch., D. D. Neer, 133½ First St., Portland, Ore.

LOS ANGELES, CAL.—Plans have been accepted for a new normal school building, to cost, when completed, about $100,000. Archs., Hebbard & Gilt.——Plans have been prepared for a row of store buildings at Broadway and 6th St., to cost $57,000. Arch., Nelson Story.

OAKLAND, CAL.—A new church building will be erected by the St. Paul's Episcopal Church at 13th and Harrison Sts., to cost $50,000. Arch., William Stokes, Oakland.

SONORA, CAL.—Plans have been accepted, according to reports, for the new 3-story court house for Tuolumne county. The main portion will be 89 × 58 ft., with wing 30 × 30 ft. Archs., William Mooser & Son, San Francisco, Cal.

TORONTO, ONT.—Bids are asked until Feb. 16 for the erection of hydraulic or electric elevators, with electric plant, etc.; for marble dado work for main corridor; and for the flooring. Arch., E. J. Lennox, King and Yonge Sts.; Mayor John Shaw, Chn. Bd. Control.

WINNIPEG, MAN.—A fire in this city, Feb. 2, destroyed the McIntyre Block, causing a total loss of $500,000; insurance, about $200,000.

WATER-WORKS.

DEXTER, ME.—The question of laying pipe for better fire protection is being considered by the residents on Spring St.

NANTUCKET, MASS.—The committee has recommended that a committee of three be appointed to acquire the works of the Wannacomet Water Co. for about $56,500. If the plant is purchased by the city, improvements to cost about $42,000 will probably be made. Consult. Engr., Freeman C. Coffin, Boston; A. T. Mowry, Chn.; R. B. Hussey, Secy.

SALEM, MASS.—The finance committee is reported to have been asked by the Wenham water board for an appropriation of $15,000 for laying cast-iron pipe in place of the old cement pipe. Supt., Henry A. Cook.

WESTFIELD, MASS.—Bids are asked until Feb. 23 for laying cast-iron water pipe, etc. Check, $1,000. Jas. H. Bryan, Chn. Comrs.; O. E. Parks, Cy. Engr.

WILLIAMSBURG, MASS.—O. G. Spelman writes us that the question of works, noted in our issue of Dec. 30, is only being considered; estimated cost, $30,000; population, 2,000. It will probably be some time before anything is decided upon. Address G. M. Biddeford and S. D. James.

EAST HARTFORD, CONN.—E. E. King, of the committee, writes us that the committee appointed by the East Hartford Fire District to consider ways for the purchase of the works of the East Hartford Water Co., will make a report at the district annual meeting in June. A. W. Wickham and Frederick Comstock are on the committee.

SEYMOUR, CONN.—Theo. B. Beach, Secy., writes us that nothing more has been done towards securing works since the surveys were completed in December. Subscription books will soon be opened.

FULTON, N. Y.—We are informed that estimates for works to cost about $115,000 have been furnished by Wm. R. Hill, Supt. Water-Works, Syracuse, N. Y. The committee will soon ascertain whether the taxpayers will build new works or buy the Fulton Water-Works Co. The source of supply of the present works is thought to be inadequate for fire purposes. Mr. Hill's estimates were made on data furnished by O. C. Breed, Cy. Engr., for the cost of duplicating the present plant with 10 miles of mains, the cost of a new plant and new supply and 17 miles of mains, and for the cost of extending the present works for 17 miles. At a taxpayers' meeting it was resolved to either purchase the works at a reasonable price or to construct new works. Population, 4,764. F. G. Spencer, Chn. Com.; Thos. Ferris, Village Clk. H. L. Paddock, of the committee, writes us under date of Feb. 7 that the village will probably purchase the works, and not build an independent plant.

LIMA, N. Y.—H. A. Clark, Corning, N. Y., J. F. Witmer, C. E., 705 Ellicott Square, Buffalo, and F. E. Schoonmaker, Rochester, N. Y., are reported as interested in proposed works for this place and Honeoyoe Falls.

MOUNT KISCO, N. Y.—John Duffey & Co., White Plains, N. Y., submitted the lowest bid Feb. 1 for constructing the works complete at $19,895. The next lowest bidder being Donato Cuozzo, 150 Nassau St., New York, at $21,750. The Utica Pipe Foundry Co., Utica, N. Y., submitted the lowest bid for furnishing the pipe, only, at $7,613. The next lowest bidder being R. D. Wood & Co., 400 Chestnut St., Philadelphia, Pa., at $7,659. J. O. Frost & Sons, Towanda, N. Y., submitted the lowest complete bid for furnishing hydrants and valves at $1,294. Clk., W. E. Osborne; Village Pres., E. T. Baily.

PORT JEFFERSON (L. I.), N. Y.—The Port Jefferson Water Co. has been incorporated with a capital stock of $7,500 by J. V. N. Bergen, of Echo, N. Y.; and E. M. Davis and C. P. Randall, of Port Jefferson, N. Y.

POUGHKEEPSIE, N. Y.—It is stated that bids will be received about April 1 for laying about a mile of water pipe. Supt., Chas. E. Fowler.

ROCHESTER, N. Y.—About 3½ miles of water pipe will be laid this year at a cost of $26,000. Supt. and Engr., E. Kuichling.

RAHWAY, N. J.—The board of trade is reported to have asked the council to issue $25,000 in water bonds. With the money it is proposed to build a new filter, at a cost of $14,000, and otherwise improve the city water service.

BOYERTOWN, PA.—An injunction has been secured restraining this place from voting Feb. 15 on the question of issuing $35,000 in bonds for the proposed municipal works. J. K. Grant, Borough Solicitor.

OSBORN, PA.—The Haysville Water Co. has been incorporated with a capital stock of $1,500 by Phillip Fetter, Peter Seibert, Chas. W. Seibel and others.

PHILADELPHIA, PA.—Common Councilman Jacob J. Seeds, Chn. Com., writes us that the money for the proposed repairs to the pumping stations at Belmont, Queen Lane and Roxborough will be provided by May 1; estimated cost, $220,000. Gen. Supt., F. L. Hand, Bureau of Water.

ROWZERVILLE, PA.—A. B. Stotler has completed surveys for the works, according to reports. A reservoir will be built at Imperial Spring, about a mile from this place.

BOONSBORO, MD.—Chas. E. Koogle, Clk., writes us that the question of building works is being agitated, and it has not yet assumed definite shape.

FROSTBURG, MD.—A bill has been introduced in the legislature authorizing the mayor and the council to issue bonds for completing the works.

OAKLAND, MD.—The legislature is reported to have been asked to authorize this place to issue $30,000 in bonds for works.

POCOMOKE CITY, MD.—E. W. Veasey, Clk., writes us that the legislature will be petitioned to authorize this place to call an election to vote on the question of issuing $30,000 in bonds, in addition to the $10,000 already issued, for works, a sewerage system and a light plant.

PETERSBURG, VA.—Press reports state that at the meeting of the council Feb. 1 the proposition made by the Upper Appomattox Water Co. to supply the city with water was withdrawn and a resolution was adopted instructing the city attorney to frame amendments to the city charter to be presented to the legislature at this session for the enlargement of the powers of the city in order to enlarge, by purchase or condemnation, its water supply from the Upper Appomattox Water Co. should it be found necessary to do so. The council also adopted an ordinance providing for the purchase and installation of water meters and appropriated $15,000 for the same.

ELKINS, W. VA.—This place voted, Jan. 31, to issue $30,000 in bonds for gravity works. J. H. Fout, Mayor.

MONTGOMERY, W. VA.—Geo. W. Champe writes us that nothing has been done in regard to securing works and a light plant proposed by the Montgomery Electric Light & Water Co. last fall.

LUMPKIN, GA.—It is reported that this place is considering the question of constructing works and a light plant.

TENNILLE, GA.—The construction of works and a light plant is proposed, according to reports.

SUMMIT, MISS.—Secretary Matthews writes us that the letting of contracts for the proposed works has been postponed until after the election of Feb. 21. Engrs., Alber & Byrne, Birmingham, Ala.; Mayor, J. B. Holden.

DAYTON, TENN.—We are informed that Geo. W. Pearsall, Harriman, Tenn., will probably begin work at once on plans, etc., for the proposed works, noted in our issue of Jan. 27. Population, about 3,500. John A. Denton, Secy.

CLEVELAND, O.—Bids are asked until March 3 for furnishing stop cocks, corporation cocks, gates, connections, about 400 48 to 3-in. stop valves, 170 6 and 4-in. hydrants, about 2,500 stop-cock boxes, etc., as they may be required during the year. Geo. R. Warden, Dir. Pub. Wks.

EAST CLEVELAND, O.—Bids are asked until March 3 for the purchase of $20,000 in water bonds and $5,000 of light bonds, according to reports. E. D. Burton, Mayor; H. B. Chapman, Clk.

HAMILTON, O.—Local papers state that the trustees will have the pumping machinery of the water-works overhauled and repaired this season.

JACKSON, O.—The Continental Water-Works Co., Greensburg, Pa., is reported to have applied for permission to build works in this place.

LANCASTER, O.—The following bids were received Feb. 1 for constructing a reservoir, furnishing and laying pipe, etc.; J. B. Orman, Pres. Comrs.:

Watson, Fuls & Porter, Greensburg, Ind	$21,413
Adams Bros., Zanesville, O.	21,000
Work Bros., Lancaster, reservoir	8,362
Kinnear & Graham, Columbus, O.	20,534
A. G. Miller, Lancaster, reservoir	12,265
Chandley Bros., Beaver Falls, Pa.	22,821
Henry Karg, Fostoria, O.	18,635
Stahl & Justis, Lancaster, reservoir	11,147
F. M. Townshend, Zanesville, O.	19,685
J. W. Swingle & Co., Zanesville, reservoir	12,957
Ingham & Neeb, Lancaster, reservoir	14,697
Walker & Whistle, Lancaster, reservoir	10,971

MOUNT VERNON, O.—Bids are asked until Feb. 15 for furnishing two 72-in. × 15 ft. tubular steel boilers for the works, according to reports. C. W. Koons, Supt.; O. Hogle, Ch. Pump Engr.

PRAIRIE DEPOT, O.—J. L. Graham, Clk., writes us that the election held Jan. 29 resulted in the defeat of the proposition to issue $10,000 in bonds for works by six votes. The question will be voted on again at the spring election.

PUT-IN-BAY, O.—Judge Severns, of the United States Court, Toledo, has issued an order directing the sale of the Put-in-Bay Water-Works, Light & St. Ry. Co.'s plant to pay creditors. Irvin Belford, Special Master.

FORT WAYNE, IND.—The board will soon ask for bids for constructing the proposed new pumping station, according to reports. Secy. and Treas., P. J. McDonald.

WILLIAMSPORT, IND.—W. H. Gemmer, Williamsport, and Prof. A. E. Phillips, Purdue University, Lafayette, Ind., have about completed plans and specifications for the proposed works, to cost about $21,000; population, 2,000. Isaiah Smith, Pres. Bd. Trustees, writes us that it is proposed to ask for bids for furnishing the money and for putting in the works.

MANISTEE, MICH.—We are informed that the council is considering the question of either purchasing the works of the Manistee Water Co., or of constructing new works, to be operated either by steam or by water power transmitted by electricity. Col. E. W. Muenscher, Cy. Engr., has submitted a report on the cost of steam works and a supply from Lake Michigan. The legislature will be asked by the city next winter for authority to issue bonds for purchasing or building. The committee's report as to the value of the present works and of cost of building a new plant will be acted upon by the council Feb. 17. Population, 15,000. Thos. Smiersthwaite, Mayor.

CHICAGO, ILL.—Bids are asked until March 5 for constructing engine foundations on existing sub-foundation for a vertical triple expansion pumping engine, to be erected at the 14th St. pumping station. L. E. McGann, Comr. Pub. Wks.

EVANSTON, ILL.—C. L. Williams, Comr. Pub. Wks., is reported to have recommended to the water commissioners the building of a new intake from Lake Michigan.

MARSEILLES, ILL.—The council is reported to have been asked by G. C. Stebbins for a water-works franchise.

NORMAL, ILL.—Bids are asked by the village trustees until Feb. 22 for constructing works to cost about $30,000. About 14 miles of mains will be needed. Engr., Geo. C. Morgan, New York Life Bldg., Chicago; O. Seibert, Pres.

OSHKOSH, WIS.—The city is considering the purchase of the works of the Oshkosh Water Co., or the construction of a new plant to be owned and operated by the city. The city has engaged W. D. Lovell, of Des Moines, Ia., to make a thorough examination of the plant now in operation and furnish an estimate of the cost of duplicating the company's works. He will also advise what changes are necessary to make the present works efficient and the cost of such improvement. The city now has the option for purchasing the works. An election to vote on the question will probably be held April 5. A. B. Ideson, Mayor.

LAMONI, IA.—W. W. Scott, Mayor, writes us that the city will probably bore for water and then erect a tank. Only small works for fire protection will be put in. The question will be voted upon March 28. Up to Jan. 31 no plans had been prepared. Population, 1,500.

MAQUOKETA, IA.—Bids are asked until Feb. 28 for constructing a new steel standpipe 80 ft. high and 20 ft. in diameter. Population, 4,000. Geo. C. Morgan, Engr., 1012 N. Y. Life Bldg., Chicago, Ill.; Fred. Fisher, Pres. Comrs.; E. D. Rich, Secy.

OGDEN, IA.—I. H. Noyes, Mayor, writes us that the council has done nothing yet in regard to works, noted in our issue of last week, but proposes to erect complete works in the spring.

WILLIAMSBURG, IA.—H. F. Shotts, Mayor, writes us that the city will enlarge its works and erect a light plant this spring. He wishes to correspond with manufacturers of supplies. The works built in 1894 cost $10,000.

MORGAN, MINN.—I. N. Tompkins, Cy. Clk., writes us that the question of constructing works in the spring is being considered.

ORTONVILLE, MINN.—Bids are asked until Feb. 23 for constructing works and a light plant to cost about $15,000. A standpipe and reservoir will be required. Chas. F. Loweth, Engr., 94 E. 4th St., St. Paul, Minn.; Chas. H. Keith, Cy. Recdr.

BERESFORD, S. DAK.—Press reports state that this place is arranging to construct works.

PIERRE, S. DAK.—It is reported that arrangements have been made whereby the city will take possession of the works of the Pierre Water, Light & Power Co. at the end of six years.

RAPID CITY, S. DAK.—Sweeney Hardware Co. and Jack Holmes, Rapid City, submitted the lowest bid Feb. 5 for constructing works and a sewerage system at the U. S. Indian School, at $2,646. J. W. Andrews, Fremont, Neb., was the next lowest at $2,744. R. P. Collins, Supt., Rapid City.

CALIFORNIA, MO.—Hiram Phillips, 301 Odell Bldg., St. Louis, Mo., has been engaged to furnish estimates for works. The source of supply will be from the Moran River.

CONCORDIA, MO.—Our correspondent informs us that this place has voted to issue bonds for works.

FOREST CITY, MO.—It is reported that the council has made arrangements for this place to secure water from the new works at Oregon, Mo., for a bonus of $600. The pumping station will be located in this city. Engr., Hiram Phillips, St. Louis, Mo.

ST. JOSEPH, MO.—Local papers state that the council water committee will ask for bids in a few days for constructing new works in this city. The city at present is supplied by the St. Joseph Water Co. Mayor Yories may be addressed.

SARCOXIE, MO.—C. A. Dieter, Secy. Commercial Club, writes us that parties from Kansas City, Mo., have submitted a proposal for a franchise for works. A city board meeting was held Feb. 7 to consider the proposition. Population, about 2,000.

JONESBORO, ARK.—A. E. Hastings, Mayor, writes us that the city is open for propositions for putting in works. Population, 5,000.

LONGVIEW, TEX.—J. R. Clemmons writes us that there is an opportunity for parties to construct works in this city. Population, 3,500. F. T. Pembut, Mayor.

McKINNEY, TEX.—J. M. Pearson, Mayor, writes us that it will be about two months before the contract for constructing works is let. The contract for boring the artesian well has been let and the work is under way. A committee has been appointed to engage an engineer to prepare plans and specifications. There will be issued $[illegible] of 5 to 20 to 40-year bonds, interest payable semi-annually. T. T. Emerson, Chn. Com.

PALESTINE, TEX.—W. C. Campbell, Cy. Secy., writes us that it is understood that parties will ask for a franchise for new works, but as yet matters have not assumed definite shape.

SEGUIN, TEX.—Judge F. C. Weinert, A. M. Erskine, Theo. Koch, J. M. Abbott, Walter Nolte and Jos. G. Greenwod are on the committee to negotiate with the Seguin Water & Ice Co. for the purchase of its works by the city for about $60,000. Mayor Zorn may be addressed.

LAJUNTA, COLO.—The Wyckoff Artesian Well Co. has been incorporated with a capital stock of $10,000 by G. L. Lackey, C. H. McVay, B. F. Wyckoff, T. H. Orcutt and J. C. Kain. The company will sink wells in Otero county.

MANZANOLA, COLO.—Edward McClain, Acting Secy., writes us that the Artesian Water Co. of this place proposes to build a storage tank and lay mains about April 1.

BERKELEY, CAL.—E. F. Henderson, Asst. Town Engr., 2201 Channing Way, writes us that this town will soon vote on the proposition of issuing bonds for new works. Two schemes are being discussed, one to pipe the town and the other for the plan to own the works complete. In the first case the water would be purchased from one of two companies. Estimated cost, $290,000 and $450,000, respectively. C. L. Huggins, Town Engr.

LOS ANGELES, CAL.—A special committee has been appointed to investigate and report whether or not it is practicable to construct works to bring water to the city from a mountain source in sufficient quantities for all purposes, and with sufficient pressure for fire purposes. E. L. Hutchinson, L. M. Grider and Z. D. Mathuss compose the committee.

FLAGSTAFF, ARIZ.—Press reports state that work on the proposed pipe line for the water supply will be begun this spring by J. A. Jones, of Oceanside, Cal. The line will be 17 miles long and is estimated to cost about $65,000.

PRESCOTT, ARIZ.—Congress will be asked to authorize the issuance of $150,000 of 50-year bonds, of which $115,000 is for water-works and $35,000 for a sewerage system. Bonds to be payable in gold and to bear interest not to exceed 5%, payable semi-annually.

HAMILTON, ONT.—It is reported that extensions to the water mains at a cost of $29,725 will be made this season. E. G. Barrow, Cy. Engr.

MOUNT FOREST, ONT.—Clark & Connolly, Toronto, Ont., have been awarded the contract for constructing works at about $22,400. J. P. Noonan, Chn. Com.

WINDSOR, ONT.—Jas. Nelson & Bro. are reported to have been awarded the contract for furnishing supplies to the water board.

SEWERAGE.

MANCHESTER, N. H.—The street and park commissioners have asked for $40,000 for new sewers and $9,000 for repairing sewers in certain streets. City Engineer Lord and Councilman Morse may be addressed.

BOSTON, MASS.—Bids are asked until Feb. 14 for furnishing catch-basin covers, grates, frames, etc., as may be required during the year. B. W. Wells, Supt. Sts.

EVERETT, MASS.—It is reported that the residents of Hendersonville have voted to build a system there. Chas. W. Mason, Cy. Engr.

LAWRENCE, MASS.—C. J. Corcoran, Cy. Clk., writes us that the completion of one large sewer is contemplated if about $100,000, the estimated cost, can be raised outside the debt limit. The committee consists of the Mayor, Aldermen King and O'Brien. Arthur D. Marble, Cy. Engr.

WEBSTER, MASS.—The legislature is considering a bill authorizing this place to build two main sewers, at a cost of $90,000. John Flint, Chn. Com.; L. J. Upham, Town Clk.

WAKEFIELD, MASS.—Dr. J. W. Heath, Michael Low, Louis E. Hawes, C. E., R. S. Stout and C. A. Dean were recently appointed a committee to prepare a plan for the sewage disposal in the center of the town. The question will be considered at the next town meeting. Judge E. A. Upton, Chn. Bd. Selectmen.

NEW LONDON, CONN.—It is proposed to extend the system to the Ocean and Montauk Ave. district, at a cost of $18,500. W. H. Richards, Engr. Sewer Dept.

NORFOLK, CONN.—P. L. Barker, Torrington, Conn., is reported to have submitted plans for a system.

BUFFALO, N. Y.—The board of public works has been directed to prepare plans and specifications for a trunk sewer to connect Buffalo River with south city line, at a cost of not over $90,000.

NORTH TARRYTOWN, N. Y.—It is reported that the plans and specifications for the completion of the North Tarrytown system are about completed, and within a few weeks the commissioners will advertise for bids.

DEALBEACH, N. J.—E. K. Conover, 26 Cortlandt St., New York, is reported to have been awarded the contract for constructing sewers here at a cost of about $55,000.

ELIZABETH, N. J.—Bids are asked until March 1 for constructing 2,575 ft. of 24 and 20-in. pipe and 200 ft. of 12-in. iron pipe sewer, etc. N. K. Thompson, St. Comr.

FLEMINGTON, N. J.—The council is reported as considering the question of building a system. A. B. Kline, Cy. Clk., writes us that nothing has been done yet in regard to the matter.

STOCKTON, N. J.—The legislature has been asked to grant this place authority to issue bonds for a system.

AVALON, N. J.—B. F. Sweeten & Son, Camden, N. J., it is reported, will begin at once on the construction of the proposed system for this place; estimated cost, $2,900. Engr. in Charge, Marcus Fry.

PITTSBURG, PA.—The following submitted bids Jan. 31 for constructing about six miles of pipe and brick sewers at a cost of about $275,000. Ruch & Dehan, A. B. Purnell, Evan Jones, Charles C. Koehne, Sloan, McIlwaine & Ott Bros., Thomas McNally, George F. Eagan, Samuel Gamble, Keeling & Ridge, Cronin & O'Hearn, James H. McQuade, Sweeney & Houston, John A. Ransom, Benny & Co., Thomas J. Swaine, Harvey Sloan and E. F. Hughes. J. A. Bingaman, Ch. Clk.; E. M. Bigelow, Dir. Pub. Wks.

BALTIMORE, MD.—John A. Wright, Chn. Joint Standing Com., 640 West Saratoga St., informs us that little data can be given yet in regard to the proposed system. After considerable discussion and expert advice it was decided to recommend the system of sewage filtration as more feasible than that of the emptying of the sewage into the Patapsco River. The latter was considered as likely to injure the oyster trade, etc. The filtration plan was recommended by the sewerage commission in 1897. This commission consisted of Mendes Cohen, C. E., 825 North Charles St.; F. H. Hambleton, C. E., and E. L. Bartlett.

POCOMOKE CITY, MD.—E. W. Veasey, Clk., writes us that a bill will be sent to the legislature authorizing this city to vote on the question of issuing $30,000 in bonds, additional to the $10,000 already on hand, for a system, waterworks and a light plant.

AURORA, IND.—The council is reported to have been petitioned to construct a new system.

BELLEFONTAINE, O.—The committee has examined systems in a number of towns, with a view to constructing a system here to cost about $60,000. Robt. Lamb, Chn. Com.; Alfred Butler and Councilman Southard are on the committee.

SALEM, O.—F. W. Allison, Cy. Clk., writes us that the bids received Feb. 2 for constructing pipe sewers were rejected. The itemized bids are given elsewhere.

TOLEDO, O.—Bids are asked until Feb. 14 for constructing 24-in. brick and 15-in. pipe sewers in several streets. L. P. Harris, Cy. Clk.

COLUMBUS CITY, IND.—Arrangements are reported as being made for constructing the proposed system this spring. Des. Engrs., Phillips & Goss, Martinsville, Ind.; E. K. Strong, Cy. Engr.

INDIANAPOLIS, IND.—Bids are asked until Feb. 16 for constructing sewers in a number of streets. M. A. Downing, Chn. Bd. Pub. Wks.

TAWAS CITY, MICH.—The construction of a system is proposed, according to reports.

CHICAGO, ILL.—Bids are asked until March 7 for constructing intercepting sewers, as described in our advertising columns. L. E. McGann, Comr. Pub. Wks.

HUDSON, WIS.—The question of building a system is being considered, according to reports.

MILWAUKEE, WIS.—Bids are asked until Feb. 14 for constructing a water tunnel 12 ft. in diameter, being section No. 1 of the Kinnickinnic River Flushing Works tunnel in the 17th Ward. Bond, $28,000. Geo. H. Benzenberg, Chn. Comrs. Pub. Wks.

PARSONS, KAN.—Joseph Weaver, Jr., Cy. Clk., writes us that J. M. Hardman, Parsons, has been awarded the contract for building 8,050 ft. of 24 to 12-in. pipe sewers; average cut, 10 ft. Des. Engr., M. C. Gaffey, Parsons.

JOPLIN, MO.—The question of constructing a main sewer through the principal portion of South Joplin is being considered by the council of that suburb, according to reports.

BELTON, TEX.—It is reported that Steele & Kelley, Georgetown, Tex., were granted a franchise Jan. 28 to construct and operate a system.

LA JUNTA, COLO.—Bids are asked until Feb. 28 for constructing a main sewer, as stated in our advertising columns. Engr., F. T. Lewis; Clk. and Recdr., G. S. Thompson.

SPOKANE, WASH.—The council is considering estimates for 18 to 12-in. pipe sewers in a number of streets. —Local papers state that a complete system for the north side will be built this year. Councilmen Hinkle, Dunning and Schiller may be addressed.

GARBAGE DISPOSAL—STREET CLEANING

BOSTON, MASS.—Benj. W. Wells, Supt. Sts., has recommended to the Mayor the construction of a paper burning plant at Calf Pasture; estimated cost, $15,000.

ALBANY, N. Y.—The board has adopted specifications for the removal of street dirt, and the clerk has been ordered to advertise for bids. Thos. J. Lanahan, Clk.

BUFFALO, N. Y.—The aldermanic committee on sanitary measures has voted to readvertise for bids for the removal and destruction of garbage and other refuse. The work is now done by the Baynes Garbage Crematory Works under a contract which will expire in June.

DAYTON, O.—Robt. J. Paul has been awarded the contract for removing the garbage from the entire city for the year, at $3,960. Mr. Paul also received the contract for removing ashes and rubbish for the year from Districts Nos. 1 and 4 at $1,200; John F. Wartz for District No. 2, at $1,992, and Patrick Dwyer for District No. 3, at $840.

DETROIT, MICH.—Controller Blades has asked for bids for a garbage contract so that the required amount may be placed in the estimates. The present contract expires June 30, and is held by the Detroit Sanitary Works, in which Congressman Corliss and ex-Mayor Chamberlain are interested.

MINNEAPOLIS, MINN.—Our correspondent informs us that the following bids were received by H. N. Avery, Health Comr., Jan. 28, for the collection and removal of the garbage of the city:

Bidder.	From Mar. 1, 1898-1899.	From Mar. 1, 1899-1900.
Christopher Runn, Minneapolis, Minn.	$18,128	$18,128
Malisky & Phillips, Minneapolis	18,445	18,445
W.W. Rich & T. Manning, Minneapolis	23,968	21,980
Chas. A. Carlson, Minneapolis	20,000	21,000
W. R. Baxter, Minneapolis	18,495	18,495
Jos. D. Kelly, Minneapolis	24,500	25,750
Chas. T. Frane, Minneapolis	17,500	17,000
Fielding & Shipley, St. Paul, Minn.	18,500	18,500
Wales & Yaw, Minneapolis	19,490	19,490
H. N. Bradbury & Co., Minneapolis	20,000	20,500

SAN DIEGO, CAL.—The City Scavenger Co. submitted a bid Jan. 26 to build and operate a garbage crematory three miles south or east of the city, and to cremate all city garbage for $248 a month. A bid was also received from A. Sevort offering to build a garbage carrying scow for $2,200.

STREETS AND ROADS.

DOVER, N. H.—Alderman McGlone has been appointed a committee to purchase a road roller.

NEW BRITAIN, CONN.—Street commissioner Parsons and City Engineer G. C. Dunham have submitted an estimate of about $24,000 for the proposed macadamizing in Stanley St., Park St., John St., Meadow St., Whiting St. and Cherry St.

ALBANY, N. Y.—The board of contract and apportionment has directed City Engineer Horace Andrews to prepare specifications for the paving of Colby St., Second St. and Hunter Ave. with brick, at an estimated cost of about $37,000. Bids will probably be asked in about a month.

MOUNT VERNON, N. Y.—Reports state that the board of supervisors passed an ordinance Jan. 24 for the issuance of $83,000 in bonds for grading, macadamizing, etc.

GENEVA, N. Y.—A proposition is being considered by the board of public works to pave Genesee St., which is 42 ft. wide, with brick, from Castle St. to the railway bridge, at an estimated cost of about $30,000, of which two-thirds will be charged to the street railway company.

TONAWANDA, N. Y.—Action was taken by the trustees, Feb. 2, in favor of macadamizing Simpson St., and J. B. Snow, Cy. Engr., was authorized to make surveys.

ELLICOTT CITY, MD.—Local papers state that at a meeting of the good roads committee, Feb. 2, it was decided to have circular letters published requesting the different counties to organize and send five delegates to meet in Annapolis, Feb. 24, to take action in securing better roads.

ATLANTA, GA.—Local papers state that Councilman Green B. Adair proposes to have Washington St. paved with wooden blocks from Alabama Ave. to Woodward Ave. within a short time.

CINCINNATI, O.—Bids are asked until Feb. 16 for brick paving in Mound Alley, from Court St. to Clark St. A. P. Butterfield, Clk. Bd. Administration.

CINCINNATI, O.—Bids are asked until March 5 for improving the road from West Eighth St. to Rapid Run Pike, Delhi Township. Eugene L. Lewis, County Audr.

RAVENNA, O.—We are informed that this city will pave several of its main streets with brick in the spring.

TOLEDO, O.—Bids are asked until Feb. 28 for brick or granite block paving on 6-in. sand foundation in Union St., from Jackson St. to Woodruff Ave. L. P. Harris, Cy. Engr.

ZANESVILE, O.—Press reports state that Engineer Waler has submitted an estimate of $21,334 for paving Woodlawn Ave.

INDIANAPOLIS, IND.—Bids are asked until Feb. 16 for constructing sidewalks to the Morris St. bridge across White River. M. A. Downing, Chn. Bd. Pub. Wks.

ELKHART, IND.—Bids are asked until Feb. 23 for grading and brick paving in portions of State, Main, Pigeon, Division, High, Franklyn, Marion and Harrison Sts. D. F. Cordrey, Cy. Engr.

CARTHAGE, ILL.—The council has decided to put in hard roads around the public square and West North Main St. to the Burlington depot; total cost, about $13,800.

EAST ST. LOUIS, ILL.—Judson E. Paramore and H. M. Pollard have been granted permission by the council to incorporate the Broadway Improvement Association to carry out the ordinance to pave Broadway with brick, between Fifth St. and the Belt Line, a distance of 1¾ miles; estimated cost, $80,000.

PEORIA, ILL.—Plans and specifications have been completed and bids will soon be asked for the improvement of the road from the wagon bridge, a distance of some 9,000 ft., to West Bluff, according to reports. A. D. Thompson, Cy. Engr.

DES MOINES, IA.—Bids are asked by the board of public works until Feb. 18 for constructing sidewalks of brick and cement for one year from April 1.

MINNEAPOLIS, MINN.—Bids are asked until Feb. 11 for either granite or Kettle River sandstone block paving in 24th St., from 1st St. to 2d St., about 1,400 sq. yds. F. W. Cappelen, Cy. Engr.; L. A. Lydiard, Cy. Clk.

SEDALIA, MO.—The council has passed a resolution to pave Massachusetts Ave., from Fifth St. to Thirteenth St. W. D. Ingenfritz, Pres. Council; P. D. Hastain, Mayor; W. O. B. Dixon, Cy. Clk.

ASHLAND, MO.—Reports state that an organization has been formed to construct a gravel road between Ashland and Claysville, estimated to cost $12,000, one-half of which will be raised by private subscription and the remainder by the county.

TORONTO, ONT.—Bids are asked until Feb. 16 for furnishing the supply of paving brick for 1898. Mayor, John Shaw, Chn. Bd. Control.

MANUFACTURING PLANTS.

BRIDGEWATER, MASS.—The building owned by the Bridgewater Box Co., and occupied by McElvin & Co., shoe manufacturers, was destroyed by fire Feb. 4, with a reported loss of $80,000.

CHICOPEE, MASS.—Reports state that D. G. Canty, 288 Chestnut St., Springfield, Mass., has been awarded a contract at $20,000 for constructing an addition to the plant of the Consumers' Brewing Co., Chicopee, to be of brick and iron, which will be used for storage purposes.

HOLYOKE, MASS.—It is stated that Smith & White Mfg. Co., Holyoke, will construct a factory in the spring for the manufacture of stationery.

BROOKLYN, N. Y.—The glazed kid factory of Howard, Spellman & Co., 32 Russell St., was destroyed by fire this week with a loss of about $75,000.

BUFFALO, N. Y.—The White Eagle Brewing Co. will construct a plant to cost $60,000, including three buildings, ice machines, bottling apparatus and a 40-HP. boiler and engine. Arch., W. G. Reimann, 959 Broadway, Buffalo.

BUFFALO, N. Y.—We are informed that the Natural Linseed Oil Co. will erect a new plant on the Buffalo River. It is said that the building will cost $20,000, and the machinery $10,000.

LANGHORNE, PA.—Reports state that plans are being completed by J. F. Stuckert & Son, 49 North 13th St., Philadelphia, for the construction of a factory 400 ft. long and three stories high for Frederick Rumpf, textile manufacturer.

FRANKFORD, PA.—Estimates are asked for the construction of a plant for W. & R. Ford, at Torresdale Ave. and Tacony St., to include a 2-story mill, 56 × 240 ft., a boiler house, 50 × 50 ft., and a 1-story picker house, 50 × 80 ft.

EGYPT, PA.—It is reported that a contract has been awarded to the Standard Construction Co., Egypt, to erect a plant for the American Cement Co. at this place.

MILL HALL, PA.—Press reports state that a fire brick plant will be erected here in the spring by Moore Fredericks, A. Munro, R. W. Fredericks, Lock Haven, Pa.; J. G. Calvert, Jersey Shore, Pa.; capital stock, $125,000.

POTTSTOWN, PA.—The Ellis & Lessing Steel & Iron Co. has decided to construct an open-hearth steel plant, according to reports.

DAYTON, O.—The works of the Bradley Twine & Cordage Co. are reported to have been destroyed by fire Feb. 7 at an estimated loss of $75,000.

BAY CITY, MICH.—The United Alkali Co., of Liverpool, England, will establish chemical works in this city. Contracts will soon be let for building and machinery. Address J. A. Duff, Bay City.

TWO RIVERS, WIS.—The Alma Mfg. Co. informs us that it will construct a main building, of wood, 42 × 120 ft., and a brick engine house. A 60 to 80-HP. engine and boiler will be required, and the exhaust steam blower system of heating will be used.

ST. LOUIS, MO.—The Wellman & Dwire Tobacco Co. will construct a brick factory at an estimated cost of about $66,000 on Park Ave., between Lawrence and Vandeventer Sts.

GAS PLANTS.

BROOKLYN, N. Y.—The Logan Iron Works, Brooklyn, has been awarded a contract to construct a gas plant for the American Coffee Co., North Third St., Brooklyn, according to reports.

PHILADELPHIA, PA.—It is reported that plans are being prepared by Wilson Bros. & Co., Archs., Drexel Bldg., for alterations and large additions, including several new buildings, to the Point Breeze Gas Works for the United Gas Improvement Co.

CHICAGO, ILL.—Reports state that Chicago is to be supplied with natural gas fuel from the Indiana gas belt. The Central Contract & Finance Co., Lima, O., has leased 3,200 acres of land around Muncie, Ind., and a large force of men will soon be put to drilling hundreds of wells as soon as the weather becomes favorable.

KANSAS CITY, MO.—Local papers state that the Jackson Natural Gas & Coal Co., which was formed recently to prospect in this vicinity for natural gas, coal and minerals, filed leases with the county recorder Feb. 1 on nearly 2,000 acres of land for prospecting purposes, lying east and south of Kansas City.

MISCELLANEOUS CONTRACTS.

SEA WALL.—Boston, Mass.—Bids are asked until Feb. 15 for constructing a sea wall on Dorchester Ave. extension. Wm. Jackson, Cy. Engr.

WALL.—Zanesville, O.—Reports state that Engineer Waler has submitted an estimate of $94,250 for the reconstruction of the Summit Ave. wall.

IRON FLAGSTAFFS.—St. Louis, Mo.—Bids are asked until March 5 for furnishing six 100-ft. iron flagstaffs. Lt.-Col. G. C. Smith, D. Q. M. Gen., St. Louis.

RIVER WORK.—Buffalo, N. Y.—Surveys are being made by V. E. Bardol, Cy. Engr., for the proposed widening, straightening and deepening of Buffalo Creek in order to prevent the South Buffalo floods.

LEVEE WORK.—New Orleans, La.—Bids are asked by the board of commissioners until Feb. 12 for constructing about 2,000 lin. ft. of revetment of Pikes Peake levee. W. J. McCune, Secy., Cotton Exchange Bldg.

STEEL PLATING.—St. Louis, Mo.—Bids are asked until March 4 for renewing the plating on the hull of the snagboat "J. N. Macomb" with mild steel, as stated in our advertising columns. Maj. Thos. H. Handbury, U. S. Engr., St. Louis.

DRAINAGE.—Addy, Wash.—Wm. Pelker, R. Rickers and C. W. Benlo, of Addy, are reported to have been appointed a committee for the drainage district, comprising about 2,000 acres, on the Colville River.

HARBOR IMPROVEMENTS.—Cleveland, O.—City Engineer M. E. Rawson has submitted estimates of $956,000 for the proposed docking, dredging, etc., for the improvement of the harbor; estimated cost, $956,000.

PARK WORK.—Buffalo, N. Y.—A contract is reported to have been awarded to Mr. Van Aken, Syracuse, at $150,000, for grading, draining, building locks, driving piles, constructing bulkheads, walks, driveways, etc., on Cayuga Island.

TELEPHONE LINE.—Minneapolis, Minn.—The Minneapolis Central Telephone Co. has been granted permission by the council to build in this city. It will make connection with its system in the spring by building a line to Litchfield and put in long-distance stations in this city.

CHANNEL WORK.—Chicago, Ill.—Bids are asked until April 6 for constructing a channel or tailrace and for enlarging, deepening and widening a portion of the channel of the Desplaines River. Bonds, $25,000 and $40,000, respectively. James Reddick, Clk. Trustees, Sanitary District.

PIER EXTENSION.—Hoboken, N. J.—Reports state that the Hoboken Land & Improvement Co. has ordered plans prepared for the extension of its piers occupied by the Netherlands-American Line at the foot of 5th St., a distance of 180 ft. The company proposes to extend all its piers to the full limit of 750 ft.

STEEL TOW BOAT.—New Orleans, La.—The following bids were received Jan. 31 for the construction of a steel tow boat 135 ft. long, 23-ft. beam and 5½-ft. draught, as advertised in Engineering News. Capt. Geo. McDerby, U. S. Engr., 3232 Prytania St., New Orleans:

Marietta Boiler Works, Marietta, O.	$27,000
Iowa Iron Works, Dubuque, Ia.	27,750
Schultz Bridge & Iron Co., Pittsburg, Pa.	30,000

DRAINAGE SYSTEM.—New Orleans, La.—Our correspondent informs us that work is now progressing on the central electric power station for the New Orleans drainage system. Preliminary borings and tests for the pile driving of the three pumping stations and excavations on the routes of the proposed canals will commence shortly. The National Contracting Co., New York, was awarded the contract by the drainage commission Aug. 9, 1897, for about $1,500,000. The itemized bids were given in our issues of July 22 and 29. F. P. Mullen, Supt.

PIER WORK.—New York, N. Y.—The following bids were received by the department of docks and ferries Feb. 4 for preparing for, repairing and extending the pier at the foot of West 50th St.:

John Monks & Son, 130 Water St.	$46,921
Wm. H. Jenks, 130 Pearl St.	48,400
Bernard Rolf, 39 Cortlandt St.	48,633
Jno. W. Flaherty, 41 Peck Slip	49,795
A. R. Baird, Brooklyn	53,270
Spearin & Preston, 11 Broadway	56,298
P. S. Ross, Jersey City	57,000

CONTRACT PRICES.

ASPHALT PAVING.—Columbus, Ind.—We are informed that the following bids were received Jan. 31 for 14,200 sq. yds. of asphalt paving, and 5,508 ft. of cement curb and gutter, as advertised in Engineering News; Engr., W. H. Rights:

Bidder.	Asphalt, sq. yd.	Curb and gutter, lin. ft.	Repairs due to excavation of pavement, sq. yd.	Total.
C. M. Keller & Co., Columbus..	$1.94[1]	$0.65	$3.00	$31,405
Ind. Bermudez Co., Indianapolis	2.13[2]	.72	2.45	34,611
Trinidad Paving Co., New York	2.20[2]	.91	2.15	36,985
Barber Asphalt Co., New York.	1.97[1]	.68	2.00	32,093
*Ayers Asp. Pvg. Co.,Zanesville	1.59[2]	.65	2.50	26,444

*Awarded contract. [1]Trinidad Lake asphalt; [2]Bermudez Lake asphalt; [3]Standard California asphalt.

Bid on asphalt a sq. yd. was for 6-in. concrete,1-in. binder, 1½-in. wearing surface, all excavation and grading and abutment stone. Cement curb and gutter to be of the Parkhurst patent. All bids were for seven years' guarantee. Contract bond is double the contract price. Guarantee bond is 25% of the contract price and $10,000 additional.

PAVING.—Houston, Tex.—L. A. Gueringer, Cy. Engr., sends the following table of the bids received Jan. 31 for paving with asphalt, brick or macadam and curbing in Caroline St., 5,020 sq. yds. and 2,810 lin. ft. of curbing; Crawford St., 11,800 sq. yds. and 6,900 lin. ft. of curbing, and Buffalo St., 6,934 sq. yds. and 4,800 lin. ft. of curbing:

Bids Received at Houston, Tex., Jan. 1, for Paving in Three Streets.

Items.	Barber Asphalt Pav'g Co., New York.	R. C. Storrie, Houston.	Hipp & Key, Houston. 1.	Hipp & Key, Houston. 2.	A. T. Lucas, Houston. 3.	A. T. Lucas, Houston. 4.	Ayres Asp. Pvg. Co., Zanesville, O.
Grading, a cu. yd.	$0.19	$0.25	$0.20	$0.25	$0.25	$0.30	$0.25
Setting stone curbing, a lin. ft.	.44	.60	.50	.55	.50	.55	.55
Granite curbing	...	1.00	...	...	...	...	...
Brick curbing	.44	.45	...	...	.45	.45	...
Cement or concrete curbing	.55	.50	...	...	.65	.65	...
Constructing culverts of hard-burned brick, a lin. ft.	.30	.80	.50	.90	.30	.35	.30
Furnishing and setting iron culverts, a lb.	.01¾	.01¾	.02	.02	.01¾	.01¾	.01¾
Laying sheet asphalt pavement with 4-in. concrete foundatn	1.75	1.60	...	...	...	...	1.76
" " " " " 6-in. " "	1.94	1.90	...	...	...	...	1.91
" rock " " " 4-in. " "	...	1.80	1.75	1.75	...	...	...
" " " " " 6-in. " "	...	1.90	1.95	1.95	...	...	...
" vitrified brick " " 4-in. " "	...	1.65	1.75	1.77	1.80	1.80	...
" " " " " 6-in. " "	...	1.95	1.95	1.95	1.95	1.95	...
" " " " " 4-in. gravel "	...	1.40	1.42	1.45	1.45	1.45	...
" " " " " 6-in. " "	...	1.55	1.50	1.53	1.55	1.50	...
Brk pavemt, int. course hard-burned brk, 6-in. sand fndatn.	...	1.44	1.53	1.55	1.57	1.65	...
Telford macadam pavement, a sq. yd.	...	.90	1.00	1.10	...	...	...
Gravel pavement, A, a sq. yd.	...	...	.95	.90	...	...	...
Gravel pavement, B, a sq. yd.	...	...	.90	.97	...	...	...

1. Bid for Buffalo St.; 2. Crawford and Caroline Sts.; 3. Buffalo and Crawford Sts.; 4. Caroline St. The bid of Hipp & Key at 50 cts. and 90 cts. for culverts, and at 2 cts. a lb. for culvert covers, were the figures on their gravel and macadam bid. For asphalt their bid for constructing culverts was 30 cts. and cost of covers 1¾ cts. a lb. Their bid on grading was also 17½ cts. on Buffalo St. and 47½ cts. for curbing on Buffalo St.

The bids are similar on all three streets, except those of Hipp & Key and A. T. Lucas. Ayres Asphalt Co., asphalt paving, 4-in. concrete foundation, $1.82 and $1.71, 6-in. foundation, $1.97 and $1.87, for Caroline and Crawford Sts., respectively.

MORTAR BATTERY.—Admiralty Head, Wash.—We are informed that the following bids were received Jan. 26 for constructing a mortar battery at Admiralty Head, Wash., as advertised in Engineering News; Capt. Harry Taylor, U. S. Engr., Seattle, Wash.:

Quantities.		Pacific Bridge Co., Francis-Cal.	Goerig & Rydstrom, San Port Townsend, Wash.	Maney, Thatcher, Jr, Oakl'nd, Cal.	W. L. Pratt, Helmann. Cal.
Clearing*	6 acres	$200.00	$125.00	$100.00	
Excavation	35,000 cu. yds.	.39	.35	.30	
Concrete No. 1	582 " "	8.00	7.25	6.70	
" " 2	4,946 " "	6.85	5.75	5.90	
" " 3	2,662 " "	5.75	4.50	5.40	
Granolithic surfac'g	1,440 sq. yds.	.65	.30	.90	
Whitewashing	299 sqrs.*	.25	.40	.30	
Stone for blind drns	100 cu. yds.	1.85	2.00	2.90	
Steel beams, etc.	185,540 lbs.	.03⅛	.03¾	.045	
Pipe:					
8-in. vit. sewer	700 lin. ft.	.75	.65	.35	
6-in. " "	1,400 " "	.55	.40	.30	
6-in. tile drain	1,500 " "	.18	.14	.20	
4-in. " "	100 " "	.12	.09	.20	
2-in. gal. wt. iron	600 " "	.28	.15	.30	
1½-in. " "	300 " "	.23	.12	.25	
Hollow brick facing	2,000 sq. yds.	1.00	.75	.99	
C. i. manholes, etc.	2,000 lbs.	.05	.04	.04	
Doors, steel:					
Double leaf, 10x7 ft	8 each	128.00	115.00	150.00	
" " 4x7 "	9 "	85.00	55.00	100.00	
Single " 3x7 "	14 "	55.00	40.00	60.00	
" " 2½x7"	5 "	45.00	35.00	50.00	
Trolley track	19,000 lbs.	.10½	.08	.08	
Trolleys, 1 ton	24 each	85.00	75.00	50.00	
Stl anchr blts & nts	23,776 lbs.	.06	.06	.04	
C. i. anchor plates.	16,600 "	.04½	.04	.04	
Miscellaneous iron.	500 "	.08	.07	.04	
Asphalting	1,254 sq. yds.	1.85	1.65	.50	
Wdwrk elec. light'g	1,000 lin. ft.	.25	.10	.03	
Total		$92,455	$78,052	$80,113	

*Squares of 100 ft.

BRICK SEWERS.—Toledo, O.—The following bids were received Jan. 31 for constructing brick sewers in Ash St.; L. P. Harris, Cy. Clk.:

Bids received at Toledo, O., Jan. 31 for Constructing Brick Sewers.

Quantities.	H. P. Streicher.	H. J. Bower.	Chas. W. McKinney.	J. Leith.	G. H. Bodette.	A. Dawson.	Wm. McMahon.	Mich'l Kelley.
60-in. brk sewer complete, foundat'n & support	270 ft.							
Manholes	1							
Catchbasins	2 each.							
12-in. sewer pipe	40 ft.							
Bulkhead complete (foundation and stone coping)								
Extra brick	500							
	$10.95	$25.00	$7.40	$14.90	$7.74	$6.76	$15.00	$11.07
	8.00	50.00	12.00	25.00	10.00	10.00	20.00	.....
	35.00	75.00	30.00	50.00	36.00	34.00	35.00	.....
	.50	1.00	.60	1.00	.70	.45	1.00	.....
	60.00	250.00	80.00	125.00	103.00	35.00	250.00	100.00
	20.00	50.00	11.00	15.00	10.00	16.00	15.00	.....

G. H. Bodette bid 35 cts. a cu. yd. for extra dirt filling.

WATER-WORKS.—Barrington, Ill.—The following are the lowest bids received Jan. 26 for building water-works, the other bidders being the Challenge Windmill & Feed Co., Murphy & Wragg and Jno. M. Healy; L. A. Powers, Village Clk.:

Quantities.	C. H. Patten, Barrington & Palatine, Ill.	S. I. Pope & Co.
10-in. cast-iron pipe, 60 lbs. a ft.	$1.00	$1.05
8-in. " " 45 "	.64	.65
6-in. " " 33 "	.52	.55
4-in. " " 22 "	.45	.46
Special castings, a lb.	.02½	.02¾
Double hydrants, each	26.50	28.00
10-in. gate valves, each	28.00	29.00
8-in. " " "	21.00	23.00
6-in. " " "	14.00	16.25
4-in. " " "	11.00	11.50
Valve boxes, each	3.50	4.00
Total	$15,279	$15,490

SUBWAY STEEL.—Boston, Mass.—The Boston Transit Commission received the following bids Feb. 3 for furnishing 165 tons of steel, required for the addition to the Scollay Square station of the Subway; B. L. Beal, Secy.:

	A ton.
Edge Moor Bridge Works, Wilmington, Del.	$39.67
Passaic Rolling Mill Co., Paterson, N. J.	49.50
New Jersey Steel & Iron Co., Trenton, N. J.	47.00
Pennsylvania Steel Co., Steelton, Pa.	35.94
Carnegie Steel Co., Pittsburg, Pa.	51.40
New England Structural Co., Boston, Mass.	50.00
Boston Bridge Co., Boston, Mass.	45.00
Berlin Iron Bridge Co., East Berlin, Conn.	46.60

VALVES.—Allegheny, Pa.—The water committee has recommended that the contract for furnishing six 36-in. valves for use in the down town districts, be awarded to the Rensselaer Mfg. Co., Troy, N. Y., at $535 each.

PIPE SEWERS.—Salem, O.—F. W. Allison, Cy. Clk., informs us that the following bids were received Feb. 2 for constructing pipe sewers, the bids being rejected; all were local bidders, except John Hadley of Canton, O.; the bid for 18 and 10-in. pipe includes laying:

Quantities.		Sam'l Buell.	John Hadley.	Burt & Gunn.	G. W.S. Lucas.	Helm & Lehmann.
18-in. pipe	1,360 lin. ft.	$0.25	$0.35	$0.30	$0.30	$0.35
10-in. "	862 " "	.11	.20	.14	.13	.20
Curb cons[1]	2,100 " "	.27	.20	.22	.20	.18
Manholes	3 each	30.00	26.00	35.00	25.00	30.00
10-in. pipe[2]	200 lin. ft.	.40	.30	.45	.35	.40
C.i. r. bsns	4 each	30.00	30.00	30.00	35.00	.40
Flushtanks.	2 "	45.00	47.00	50.00	45.00	40.00
Excavation	3,328 cu. yds.	.34	.25	.28	.23	.49
Total		$2,573	$2,312	$2,398	$2,140	$2,010

[1]4-in. curb connections. [2]10-in. pipe to connect receiving basins, complete.

WATER PIPE.—Cleveland, O.—M. W. Kingsley, Supt. Water-Works, informs us that the following bids were received Feb. 2 for furnishing 10,000 tons of cast-iron water pipe:

Items.	Addyston Pipe & Steel Co., Cincinnati, O.	Buffalo (N.Y.) Cast-Iron Pipe Co.	Lake Shore Foundry Co., Cleveland, O.	Patterson Fdry Co., Cleveland, O.	City Foundry Co., Cleveland, O.
Cast-iron pipe, all sizes:					
3 to 48-in. a ton*	$16.23	$19.50	.....	.....	.....
Delivered on streets	16.73	.....	$17.45	.....	.....
Special castings:					
3 to 12-in., f. o. b.	45.00	45.00	34.00	$36.00	.....
Delivered on streets	50.00	.....	.....	36.00	$33.00
16-in. pipe, f. o. b.	45.00	45.00	34.00	.....	.....
Delivered on streets	50.00	.....	.....	40.00	33.00
20 and 24-in. pipe, f. o. b.	45.00	45.00	38.00	40.00	.....
30 and 36-in. pipe, f. o. b.	45.00	60.00	38.00	40.00	.....
42 and 48-in. pipe, f. o. b.	45.00	60.00	44.00	40.00	.....

*F. o. b.

Addyston Pipe & Steel Co., delivered on streets, 20 to 48-in. pipe, $50.00; miscellaneous castings,, f. o. b., $40.00, delivered on streets, $45.00; City Foundry Co., castings, delivered on streets, $33.00.

WIDENING BRIDGE.—Washington, D. C.—We are informed that the district commissioners received the following bids Feb. 3 for widening the bridge at P St., as advertised in Engineering News:

Bidder.	Structural steel erected, 110,000 lbs.	New rubble masonry, 20 cu. yds.	Cement sidewalks, 150 sq. yds.	Sheet asphalt pave, 250 sq. yds.	Iron railing, 350 lin. ft.
J. C. McGuire, New York.	$0.0289	$7.00	$2.50	$2.40	$2.30
R. H. Hood, Washington..	.038	8.00	2.00	2.00	2.00
Benner & Opdyke, Phila...	.0345	7.75	2.65	2.65	2.75
Penn Bridge Co.*	.028	9.85	2.75	2.45	2.85
Youngstown (O.) Bdg. Co.	.0342	5.90	2.50	2.30	2.25
Structural Iron Co.†	.042	5.00	2.50	2.30	1.90

*Beaver Falls, Pa. †Baltimore, Md.

PAVING AND CURBING.—St. John, N. B.—The council received the following bids last month for paving 5,000 sq. yds. with cedar block: J. A. Gregory, 30 cts. per sq. yd.; Chas. Hughes, 29 cts.; Chas. F. Godfrey, 28 cts.; Hiram Godard, Princess pine blocks, 60 cts. sq. yd.; Henry Walton, 5,000 lin. ft. of granite curbing, 37 cts. a lin. ft.

WATER PIPE.—Minneapolis, Minn.—The Ohio Pipe Co., Columbus, O., has received the contract for furnishing 1,138½ tons of cast-iron water pipe for the season of 1898, at $17.74 a ton of 2,000 lbs. for 6 and 8-in. pipe and $16.99 a ton of 2,000 lbs. for 12 and 16-in. pipe.

GRANITE BLOCK PAVING.—Macon, Ga.—Baily Smith writes us that the following bids were received Jan. 31 for 2,430 sq. yds. of granite block paving: Venable Bros., Atlanta, Ga., $2.59 a sq. yd.; M. T. Lewman & Co., Atlanta, Ga., $2.66, and Georgia Quincy Granite Co., Macon, Ga., $2.53.

ARTESIAN WELL.—Bradford, Ill.—It is reported that the contract for sinking an artesian well was recently awarded W. H. Gray & Bros., at $2.10 a ft. for an 8-in. well, drilled and not cased, $2.40 for an 8-in. well and cased; $1.85 for 6-in. well and not cased, $2.25 for 6-in. well and cased.

INDUSTRIAL NOTES.

THE FLINT & WALLING MFG CO., of Kendallville, Ind., has recently closed contracts for furnishing several manufacturing plants with complete water supply systems, and has also sold two complete railway water supply outfits to be shipped to South America. The towers are all made of galvanized steel, the tanks being of wood.

THE WILSON & BAILLIE MFG. CO., 85 Ninth St., Brooklyn, N. Y., are taking active steps to introduce their concrete steel-bound curb and gutter. The W. A. Murtfeldt Co., of Boston, Mass., have taken the agency for Boston, Worcester and Providence, and the Hartford Paving & Construction Co. are established as agents for the city of Hartford, Conn.

THE NATIONAL ELASTIC NUT CO., of Milwaukee, Wis., held its annual meeting of stockholders on Jan. 27, and the following were elected as directors for the ensuing year: C. F. Ilsley, E. M. Spaulding, Joshua Stark, T. L. Paine and John Campbell. The board of directors elected officers as follows: Pres., C. F. Ilsley; Vice-Pres. and Gen. Mgr., T. L. Paine; Secy. and Treas., John Campbell.

THE PITTSBURG VITRIFIED PAVING BRICK CO., Pittsburg, Kan., is increasing its plant by constructing three kilns, 22 ft. × 82 ft. long, and a new drying house for a hot blast system to utilize the heat from the cooling kilns. This will be a detached fireproof building, 22 × 80 ft. This plant has at present an output of 1,500,000 paving brick a month. Mr. Robert Nesch is the President and General Manager.

FRONTIER IRON WORKS, Detroit, Mich., have ready for the market four sizes of their new Frontier vertical gas and gasoline engines, and other sizes will be ready about March 1. This engine is especially designed for powers ranging from 1 to 10 HP. Above this size the company builds two-cylinder Frontier tandem in sizes from 10 to 100 HP. The company reports a largely increased demand for both types, especially for pumping and mill work.

JAMES BONAR & CO., Pittsburg, Pa., have received an order from the Shenango Valley Steel Co., New Castle, Pa., for 5,000-HP. Pittsburg feed-water heaters and purifiers, consisting of two heaters of 2,500-HP. capacity each, for its new tin-plate plant, which is claimed to be the largest in this country. They are also furnishing them with eight 8-in., three 14-in., and one 16-in. direct steam separators to be attached to the throttle valves of engines. James Bonar & Co. report increased business in their other specialties.

THE CAHALL SALES DEPARTMENT, of Pittsburg, Pa., in February, 1897, contracted with the New York & Staten Island Electric Ry. Co. for the installation of about 1,200-HP. of Cahall boilers of the Babcock & Wilcox type in their new power station. A month afterward the company duplicated this order; and very recently it has given the Cahall firm a third contract under which it furnishes one new boiler for this power house and also dismantles three boilers built by the Babcock & Wilcox Co. in the company's old power house, which are of smaller size than the company desires, and rebuilds them into boilers of larger size of the Cahall type. The new power station of the company will then contain about 3,600-HP. of Cahall boilers.

THE C. A. BROCKETT CEMENT CO., Mr. C. A. Brockett, Pres., 123 West 8th St., Kansas City, Mo. (also, owner of the Kansas City & Fort Scott Cement Co.), has consolidated the latter company with the Fort Scott Hydraulic Cement Co., the new corporation bearing the firm name of the Fort Scott Cement Association. The mills of both companies are located at Fort Scott, Kan., and the general offices are located in the Aetna Building, at 123 West 8th St., Kansas City, Mo. The general business of the C. A. Brockett Cement Co. will be conducted, as heretofore, separately, except its interests in Fort Scott hydraulic cements, as noted. The U. S. Government, railway companies and many municipalities and private corporations have used Fort Scott hydraulic cement, over 40,000 bbls. having been used annually in street work in Kansas City, Mo., for a number of years. Among orders now being filled by the Fort Scott Cement Association is one for 180 carloads for Shreveport, La., the order for which was placed only after hydraulic cements generally had been thoroughly investigated by the Special Committee on Paving. The officers of the Fort Scott Cement Association are: Pres., C. A. Brockett; Vice-Pres., Walter S. Halliwell; Treas., D. P. Thomas; Secy., Howard McCutcheon.

The Circulation of ENGINEERING NEWS among Prominent Contractors Probably EXCEEDS that of any other FIVE PAPERS.

ADVERTISE YOUR WORK IN ENGINEERING NEWS.